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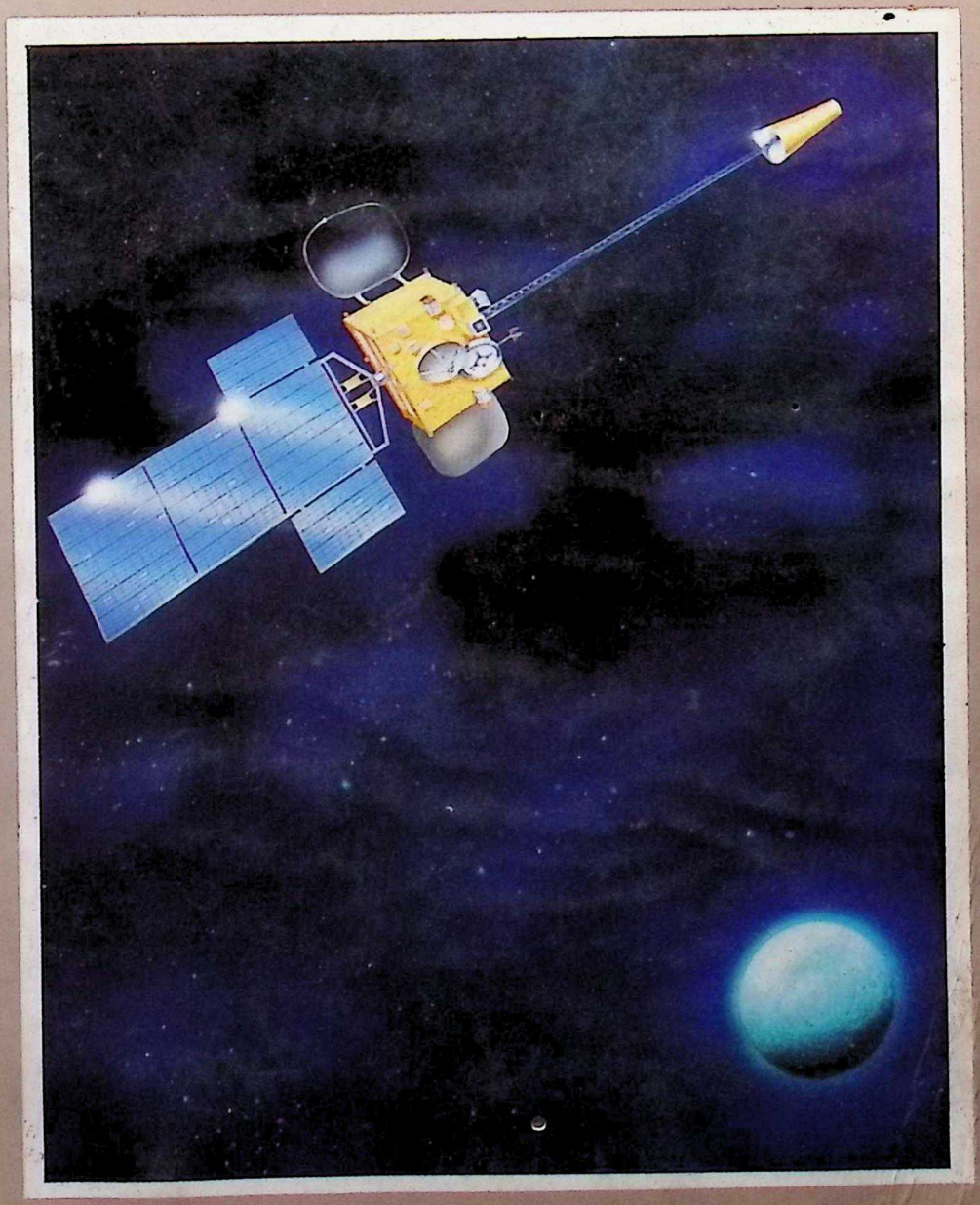

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Preface

The Government of India's prestigious, authentic and comprehensive, 'INDIA— A REFERENCE ANNUAL' is compiled and edited by the Research and Reference Division, a media unit under the Ministry of Information and Broadcasting. Information is gathered from Central Government Ministries/Departments/States/Union Territories and other organisations which lends authenticity and legitimacy to the contents of the text. This edition which has hit the stands is the thirty-eighth in a row. The material passes through close scrutiny of editors and is compressed for impact and better understanding.

This volume contains elaborate, in-depth, diverse aspects of the Indian economy as a whole and various individual sectors including churning wheels of industry, trade, commerce, energy, finance, agriculture, water resources, human resources, education, mass communication, environment, transport—water, air and surface, etc. Various segments of economy are dealt with special stress on plan of action, programmes and progress achieved. Generally the issue covers information up to December, 1992 but the facts and figures have been further updated wherever feasible. Chapter 'Diary of National Events' covers important happenings from January 1992 to March 1993.

The Division has been bringing out this well-documented publication since 1953. The book is widely useful to scholars, authors, students, participants of various competitive examinations, officials, journalists, academicians, researchers, politicians, orators and all those engaged in the study of India. In a vast rush-work of this nature the constraints, of time, etc. are bound to be encountered and hence some unintended probable printing flaws too. Nevertheless to accommodate maximum possible improvement in format and contents has been our constant endeavour.

As per the proviso laid by Survey of India, the 'publisher is responsible for correctness of internal details shown in the maps'.

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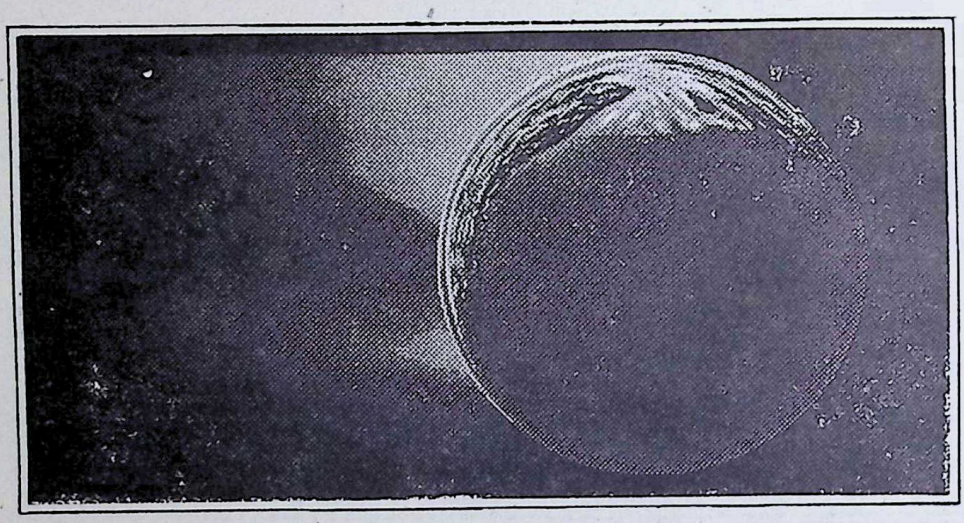

ITC is one of India's leading private-sector companies. Its annual group turnover, in excess of Rs. 3000 crores, is drawn from several businesses: tobacco, cigarettes, hotels, edible oils, packaging and printing, paper, board, computer software and financial services.

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ADVERTISEMENTS

KEY TO NUMERATION

1 lakh	=	One hundred thousand
10 lakh	=	1 million
1 crore	=	10 million
100 crore	=	1 billion

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1 Land and the People

INDIA is one of the oldest civilisations with a kaleidoscopic variety and rich cultural heritage. It has achieved multifaceted socio-economic progress during the last 46 years of its Independence. India has become self-sufficient in agricultural production and is now the tenth industrialised country in the world and the sixth nation to have gone into outer space to conquer nature for the benefit of the people. It covers an area of 32,87,263[1] sq km extending from the snow-covered Himalayan heights to tropical rain forests of the south. As seventh largest country in the world, India is well-marked off from the rest of Asia by mountains and the sea, which give the country a distinct geographical entity. Bounded by the Great Himalayas in the north, it stretches southwards and at the Tropic of Cancer, tapers off into the Indian Ocean between the Bay of Bengal on the east and the Arabian Sea on the west.

Lying entirely in the northern hemisphere, the mainland extends between latitudes $8^0 4'$ and $37^0 6'$ north, longitudes $68^0 7'$ and $97^0 25'$ east and measures about 3,214 km from north to south between the extreme latitudes and about 2,933 km from east to west between the extreme longitudes.

PHYSICAL BACKGROUND

Countries having a common border with India are Afghanistan and Pakistan to north-west, China, Bhutan and Nepal to north, Myanmar to east and Bangladesh to east of West Bengal. Sri Lanka is separated from India by a narrow channel of sea formed by the Palk Strait and the Gulf of Mannar.

PHYSICAL FEATURES

The mainland comprises four regions, namely, the great mountain zone, plains of the Ganga and the Indus, the desert region and the southern Peninsula.

The Himalayas comprise three almost parallel ranges interspersed with large plateaus and valleys, some of which, like Kashmir and Kullu valleys, are fertile, extensive and of great scenic beauty. Some of the highest peaks in the world are found in these ranges. The high altitudes limit travel only to a few passes, notably the Jelep La and Nathu La on the main Indo-Tibet trade route through the Chumbi Valley, north-east of Darjiling and Shipki

1 Provisional as on 31 March 1982.

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La in the Satluj Valley, north-east of Kalpa (Kinnaur). The mountain-wall extends over a distance of about 2,400 km with a varying depth of 240 to 320 km. In the east, between India and Myanmar and India and Bangladesh, hill ranges are much lower, Garo, Khasi, Jaintia and Naga Hills, running almost east-west, join the chain to Mizo and Rakhine Hills running north-south.

The plains of the Ganga and the Indus, about 2,400 km long and 240 to 320 km broad, are formed by basins of three distinct river systems—the Indus, the Ganga and the Brahmaputra. They are one of the world's greatest stretches of flat alluvium and also one of the most densely populated areas on the earth. Between the Yamuna at Delhi and the Bay of Bengal, nearly 1,600 km away, there is a drop of only 200 metres in elevation.

The desert region can be divided into two parts—the great desert and the little desert. The great desert extends from the edge of the Rann of Kachchh beyond the Luni river northward. The whole of Rajasthan-Sind Frontier runs through this. The little desert extends from the Luni between Jaisalmer and Jodhpur upto northern wastes. Between the great and the little deserts lies a zone of absolutely sterile country, consisting of rocky land cut-up by limestone ridges.

The Peninsular Plateau is marked off from the plains of the Ganga and the Indus by a mass of mountain and hill ranges varying from 460 to 1,220 metres in height. Prominent among these are the Aravalli, Vindhya, Satpura, Maikala and Ajanta. The Peninsula is flanked on one side by the Eastern Ghats where average elevation is about 610 metres and on the other by the Western Ghats where it is generally from 915 to 1,220 metres, rising in places to over 2,440 metres. Between the Western Ghats and the Arabian Sea lies a narrow coastal strip while between the Eastern Ghats and the Bay of Bengal there is a broader coastal area. The southern point of plateau is formed by the Nilgiri Hills where the Eastern and the Western Ghats meet. The Cardamom Hills lying beyond may be regarded as a continuation of the Western Ghats.

GEOLOGICAL STRUCTURE

The geological regions broadly follow the physical features and may be grouped into three regions: the Himalayas and their associated group of mountains, the Indo-Ganga plain and the Peninsular Shield.

The Himalayan mountain belt to north and the Naga-Lushai mountain in east are the regions of mountain building movement. Most of this area, now presenting some of the most magnificent mountain scenery in the world, was under marine conditions about 60 crore years ago. In a series of mountain building movements commencing about seven crore years ago, the sediments and the basement rocks rose to great heights. The weathering and erosive agencies worked on these to produce the relief seen today. The Indo-Ganga plains are a great alluvial tract that separates the Himalayas in the north from the Peninsula in south.

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The Peninsula is a region of relative stability and rare seismic disturbances. Highly metamorphosed rocks of the earliest periods, dating back as far as 380 crore years, occur in the area; the rest being covered by the coal-bearing Gondwana formations, lava flows belonging to the Deccan Trap formation and younger sediments.

RIVERS

Rivers in India may be classified as: (i) Himalayan rivers; (ii) Peninsular rivers; (iii) coastal rivers and (iv) rivers of the inland drainage basin.

The Himalayan rivers are perennial as they are generally snow-fed and have reasonable flow throughout the year. During the monsoon the Himalayas receive very heavy rainfall and the rivers discharge the maximum quantity of water causing frequent floods. The Peninsular rivers are generally rain-fed and, therefore, fluctuate in volume. A large number of the streams are non-perennial. The coastal streams, especially on the west coast are short in length and have limited catchment areas. Most of them are flashy and non-perennial. The streams of the inland drainage basin of western Rajasthan are few and far between. Most of them are of an ephemeral character. They drain towards the individual basins or salt lakes like the Sambhar or are lost in the sands, having no outlet to the sea. The Luni is the only river of this category that drains into the Rann of Kachchh.

The Ganga sub-basin which is a part of the larger Ganga-Brahmaputra-Meghana basin is the largest in India receiving waters from an area which comprises about one-quarter of the total area of the country. Its boundaries are well-defined by the Himalayas in north and the Vindhyas in south. The Ganga flows through Uttar Pradesh, Bihar and West Bengal in India and enters Bangladesh thereafter. It has two main headwaters in the Himalayas: the Bhagirathi and the Alkananda, the former rising from the Gangotri glacier at Gomukh and the latter from a glacier short of the Alkapuri glacier. The Ganga is joined by a number of the Himalayan rivers including the Yamuna, Ghaghra, Gomti, Gandak and Kosi. The westernmost river of the Ganga system is the Yamuna, which rises from the Yamnotri glacier and joins the Ganga at Allahabad. Among important rivers flowing north from central India into the Yamuna/Ganga are the Chambal, Betwa and Sone.

The Brahmaputra and the Barak flowing from east to west in north-eastern region are international rivers and have immense water resources potential which is still in the initial stages of development.

The Godavari in the southern Peninsula has the second largest river basin covering 10 per cent of the area of India. Next to it is the Krishna basin in the region, while the Mahanadi has the third largest basin. The basins of the Narmada in the uplands of the Deccan flowing to the Arabian Sea and of the Kaveri in south falling into the Bay of Bengal are about the same size, though with different character and shape.

Two other river systems, which are small but agriculturally important, are those of the Tapti in north and the Penner in south. These west coast

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rivers are of great importance as they contain as much as 11 per cent of the country's water resources while draining about 10 per cent of the land area.

CLIMATE

The climate of India may be broadly described as tropical monsoon type. There are four seasons: (i) winter (January-February), (ii) hot weather summer (March-May); (iii) rainy south-western monsoon period (June-September) and (iv) post-monsoon period, also known as north-east monsoon period in the southern Peninsula (October-December). India's climate is affected by two seasonal winds-the north-east monsoon and the south-west monsoon. The north-east monsoon commonly known as winter monsoon blows from land to sea whereas south-west monsoon known as summer monsoon blows from sea to land after crossing the Indian Ocean, the Arabian Sea and the Bay of Bengal. The south-west monsoon brings most of the rainfall during the year in the country. We can now predict rains successfully with developed models and trained manpower.

FLORA

With a wide range of climatic conditions from the torrid to the arctic, India has a rich and varied vegetation, which only few other countries of comparable size possess. India can be divided into eight distinct floristic regions, namely, the western Himalayas, the eastern Himalayas, Assam, the Indus plain, the Ganga plain, the Deccan, Malabar and the Andamans.

The western Himalayan region extends from Kashmir to Kumaon. Its temperate zone is rich in forests of *Chir,* pine, other conifers and broad-leaved temperate trees. Higher up, forests of *deodar,* blue pine, spruce and silver fir occur. The alpine zone extends from upper limit of the temperate zone to about 4,750 metres or even higher. The characteristic trees of this zone are high-level silver fir, silver birch and junipers. The eastern Himalayan region extends from Sikkim eastwards and embraces Darjiling, Kurseong and the adjacent tract. The temperate zone has forests of oaks, laurels, maples, rhododendrons, alder and birch. Many conifers, junipers and dwarf willows also occur. The Assam region comprises the Brahmputra and the Surma valleys and the intervening hill ranges. The vegetation is luxuriant with evergreen forests, occasional thick clumps of bamboos and tall grasses. The Indus plain region comprises the plains of Punjab, western Rajasthan and northern Gujarat. It is dry and hot and supports natural vegetation. The Ganga plain region covers the area from the Aravalli ranges to Bengal and Orissa. A greater part of the area is alluvial plain and is under cultivation for wheat, sugarcane and rice. Only small areas support forests of widely differing types. The Deccan region comprises the entire table land of the Indian Peninsula and supports vegetation of various kinds from scrub jungles to mixed deciduous forests. The Malabar region covers the excessively humid belt of mountain country parallel to the west coast of the Peninsula. Besides being rich in forest vegetation, this region produces important commercial crops, such as coconut, betelnut, pepper, coffee and tea, rubber and cashewnut. The Andaman region abounds in evergreen,

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semi-evergreen, mangrove, beach and diluvial forests. The Himalayan region extending from Kashmir to Arunachal Pradesh through Nepal, Sikkim, Bhutan, Meghalaya and Nagaland and the Deccan Peninsula is rich in endemic flora, with a large number of plants which are not found elsewhere.

India is floristically very rich. It is estimated that there are about 45,000 species of plants including shrubs in the country. The vascular flora, which forms the conspicuous vegetation cover comprises 15,000 species. Of these, more than 35 per cent is endemic and has so far not been reported anywhere in the world. The total plant wealth of the country includes not only the useful large flowered plants including flowering shrubs but also a large number of non-flowering plants like ferns, liverworts, algae and fungi.

The flora of the country is being studied by the Botancial Survey of India (BSI), Calcutta along with certain universities and research institutions. The publication Flora of India in the form of fascicles has been initiated by BSI and 20 fascicles have already been published. BSI has also brought out publications on the Flora of Karnataka (2 vols.), Goa, Daman and Diu (2 vols.), Tamil Nadu (3 vols.), Arunachal Pradesh (3 vols.) Meghalaya (2 vols.) and Tripura (1 vol.). Publications on state and district flowering and non-flowering flora, are also being brought out by the BSI.

Ethnobotanical study deals with the utilisation of plants and plant products by ethnic races. A scientific study of such plants has been made by BSI. A number of detailed ethnobotanical explorations have been conducted in different tribal areas of the country. More than 800 plant species of ethnobotanical interest have been collected and identified at different centres.

Owing to destruction of forests for agricultural, industrial and urban development, several Indian plants are facing extinction. BSI brings out an inventory of endangered plants in the form of a publication titled "Red Data Book". Three volumes of the book have already been published and the fourth is being published. Samples of some of these plants are preserved in botanical gardens and national parks. Collections of dried samples of these plants are preserved in the Central National Herbarium, the regional herbaria of BSI and in research and teaching institutions of the country.

FAUNA

The Zoological Survey of India (ZSI) with its headquarters in Calcutta and 16 regional stations located in different parts of the country is responsible for surveying the faunal resource of our country. Possessing a tremendous diversity of climate and physical conditions, India has a great variety of fauna numbering a little over 65,000 known species. Of these, insects constitute about 40,000, mollusc a little over 5,000, mammals 372, birds 1,228, reptiles 428, amphibians 204 and fishes 2,546.

The mammals include the majestic elephant, the *gaur* or Indian bison the largest of existing bovines, the great Indian rhinoceros, the gigantic wild sheep of the Himalayas, the swamp deer, the *thamin* spotted deer, *nilgai*, the four-horned antelope, the Indian antelope or black-buck the

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only representatives of these genera. Among the cats, the tiger and lion are the most magnificent of all; other splendid creatures such as the clouded leopard, the snow leopard, the marbled cats; etc.,are also found. Many other species of mammals are remarkable for their beauty, colouring, grace and uniqueness.

The abundant and colourful bird life of this country is one of its valuable possessions. Several birds like pheasants, geese, ducks, *mynahs*, parakeets, pigeons, cranes, hornbills and sunbirds inhabit forests and wet lands.

Rivers and lakes harbour crocodiles and *gharials*, the latter being the only representative of crocodilian order in the world. The salt water crocodile is found along the eastern coast and in the Andaman and Nicobar islands. A project for breeding crocodiles, started in 1974, has been instrumental in saving the crocodile from extinction. Twelve schemes are in operation in different states for breeding crocodiles.

The great Himalayan range has a very interesting fauna that includes wild sheep and goats, markhor, ibex, shrew and tapir. The lesser Panda and the snow leopard are also found in the upper reaches of the mountains. Of these animals, 81 species of mammals, 47 of birds, 15 of reptiles, three of amphibians and a large number of butterflies, moths and beetles are listed as endangered.

The Wildlife (Protection) Act, 1972 adopted by all states except Jammu and Kashmir (which has its own Act) governs the wildlife conservation and protection of endangered species both inside and outside forest areas. Under this Act, trade in rare and endangered species has been banned. India is a signatory to the Convention of International Trade in Endangered species of Wild Flora and Fauna (CITIES). Under this, export or import of endangered species is subject to strict control and commercial exploitation of such species is prohibited.

There are presently 75 national parks, 421 wildlife sanctuaries and 35 zoological gardens in the country, covering nearly 4.5 per cent of the geographical area.

DEMOGRAPHIC BACKGROUND

CENSUS

Enumeration for the 1991 census began from 9 February and ended on 28 February with the census reference point of time being the sunrise of 1 March 1991. The houseless people were enumerated on the night of 28 February and in some cases on 27 February due to *Holi* festival. A revisional round was conducted during 1-5 March 1991 to up-date the population as on 1 March 1991. In certain inaccessible areas, however, the enumeration was carried out non-synchronously. These areas included the snowbound regions of Uttar Pradesh, Himachal Pradesh and certain parts of Andaman and Nicobar Islands where the enumeration was carried out in September- October 1990. As in the earlier censuses, different dates have been prescribed for the census in Jammu and Kashmir owing to weather conditions prevailing in that state during February-March 1991.

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The process of census data takes some time, therefore, provisional data about certain essential features of the population has been released as the first results of 1991 census. The provisional data have been generated by aggregating the figures compiled by the enumerators immediately on completion of the field work. The provisional population results include distribution of population, sex ratio, density, growth rate and number of literates.

POPULATION

India's population, as on 1 March 1991 stood at 846.30 million (439.23 million males and 407.07 million females). This includes the projected population of 7.72 million of Jammu and Kashmir. The second largest populous country, India is the home of 16 per cent of world's population. The country, however, accounts for 2.42 per cent of the total world area.

The population of India as recorded at each decenial census from 1901 has grown steadily except for a decrease during 1911-21. In absolute terms the country's population has increased by 161.12 million during the decade 1981-91. This is ten times the population of Australia and is more than the population of Japan. Decadal growth of population from 1901 is shown in table 1:1. An encouraging feature revealed by the provisional results is the decline in growth rate of the population in the last decade compared to 1971-81. It marginally decreased from 24.66 per cent recorded in 1971-81 to 23.85 per cent during 1981-91.

In most states the growth rate declined during the decade. However, Andhra Pradesh, Arunachal Pradesh, Madhya Pradesh, Maharashtra, Nagaland, Tripura, West Bengal, Daman and Diu, Lakshadweep and Pondicherry which account for one third of the country's population, recorded increase in growth rate. Nagaland registered the highest growth rate of 56.86 per cent while Kerala the lowest 13.98 per cent.

MOST POPULOUS

Uttar Pradesh continued to be the largest state, population wise with 16.44 per cent people of the country living there (139, 112, 287), followed by Bihar with 10.21 per cent (86,374,465) and Maharashtra with 9.33 per cent (78,937, 187), West Bengal occupied fourth place accounting for 8.04 per cent (68,077,965) of the country's population followed by Andhra Pradesh with 7.86 per cent (66, 508,008). Ranking of the states and union territories according to population size is in table 1.2.

Bombay metropolis continued to be the most populated city of the country with urban population of 12.60 million, Calcutta taking the second place having 11.02 million. Delhi ranks third with a population (urban) of 9.42 million followed by Madras 5.42 million.

POPULATION DENSITY

One of the important indices of population concentration is the density of population. It is defined as the number of persons per square kilometre. The

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population density has gone up from 216 in 1981 to 267 persons in 1991. In 1901 it was 77 persons. Among the union territories Delhi has the highest density of 6,352 persons per sq km followed by Chandigarh (5, 632). Lakshadweep which has the smallest population size is the fourth most densely populated area with a density of 1,616 persons per sq km. Pondicherry ranks third (1,642) followed by Daman and Diu (907). Arunachal Pradesh is the most sparsely populated area of the country with 10 persons per square kilometre.

The ten heavily populated districts of the country are Calcutta, Madras, Greater Bombay, Hyderabad, Delhi, Chandigarh, Mahe, Haora, Kanpur City and Bangalore. All of them have density of above 2,000 persons per square kilometre and 5.01 per cent of the country's population lives in these districts. The average density of these ten districts is 6, 888.

SEX RATIO

In any study of the population, analysis of the sex composition plays a vital role. The sex composition of the population is affected by the differentials in the mortality conditions of males and females, sex selective migration and the sex ratio at birth.

Sex ratio is defined as the number of females per 1000 males. In India it has generally been adverse to women. The ratio has also declined over the years except in 1981 when it slightly improved to 934 from 927. In 1991, there has been a fall by seven points to 927 per thousand males. But Kerala represented a different spectrum. The state has a higher number of females than males, 1,036 females for thousand males.

In the Indian context, a sex raio of 950 and above can be considered as favourable to females. The states and union territories coming under this category besides Kerala and Himachal Pradesh (976), Andhra Pradesh (972), Goa (967), Karnataka (960), Manipur (958), Orissa (971) Tamil Nadu (974), Dadra and Nagar Haveli (952), Daman and Diu (969) and Pondicherry (979). Chandigarh accounted for the lowest number of females per thousand male with 790.

LITERACY

For the purpose of census, a person is deemed as literate if he or she can read and write any language with understanding. In the 1991 census, the question on literacy was canvassed only for population aged seven years and above, unlike earlier censuses which took into account population of five years and above for this purpose.

The final results reveal that there has been an increase in literacy in the country. The literacy rate in the country (excluding Jammu and Kashmir) is 52.21 per cent (64.13 for males and 39.29 for females).

For the population aged seven years and above the literacy rate has increased by 8.54 percentage points. The increase in male and female literacy rates are of the order of 7.63 and 9.44 points respectively. Even though strict comparision with earlier decades may not be possible due to

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भारत INDIA

Based upon Survey of India Map with the permission of Surveyor General of India.

Projection: Lambert Conical Orthomorphic.

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The boundary of Meghalaya shown on this map is as interpreted from the North-Eastern Areas (Reorganisation) Act 1971, but has yet to be verified.

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line

The administrative headquarters of Chandigarh, Haryana and Punjab are at Chandigarh

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the changes in the age group to which they relate, it appears that increase in literacy rate observed during the decades 1981-91 is higher than the increase of 8.53 percentage points observed during the decade. During the decade 1961-71 literacy rate for population aged five and above had increased by 6.02 percentage points.

Kerala retained its position by being on top with a 89.81 per cent literacy rate in the country. Bihar stood at the bottom with a literacy rate of 38.48 per cent, with Rajasthan being close to it having 38.55 literacy percentage. But literacy among the women was the lowest in Rajasthan with a percentage of 20.44 as compared to 54.99 among the males.

TABLE 1.1 POPULATION 1990-91

Year	Population	Decade growth rate (per cent)	Average Annual exponential growth rate (per cent)	Progressive growth rate over 1901
1901	238,396, 327	--	--	--
1911	252,093, 390	+5.75	0.56	+5.75
1921	251,321,213	-0.31	-0.03	+5.42
1931	278,977,238	+11.00	1.04	+17.02
1941	318,660,580	+14.22	1.33	+33.67
1951	361,088,090	+13.31	1.25	+51.47
1961	439,234,771	+21.51	1.96	+84.25
1971	548,159,652	+24.80	2.20	+129.94
1981	683,329,097	+24.66	2.22	+186.64
1991	846,302,688	+23.85	2.14	+255.00

Source: Census of India 1991. Provisional population totals.

Notes.:

1. In 1981, census was not conducted in Assam. Based on the 1971 census and the provisional results of the 1991 census the population of Assam as on 1 March 1981 has been interpolated.
2. As a consequence of the revised estimate for the year 1981, the total population of India as of 1981 has been estimated as 683,329,097 as against the earlier published figure of 685,184,692.
3. The 1991 census has not yet been conducted in Jammu and Kashmir. The provisional population figures for India include the population figure for Jammu and Kashmir projected by the Standing Committee of Experts on population projections. (Oct. 1989)
4. The 1971 census was conducted with 1 April 1971 as the reference date. In both the 1961 and 1981 censuses the reference date was 1 March. The average annual exponential growth rate presented in the statement takes into account this difference. No such adjustment has been made while calculating decadal growth rate.
5. In Arunachal Pradesh the census was conducted for the first time in 1961. While working out the decadal growth, both absolute as well as per cent, for 1951-61, 1961 census population of Arunachal Pradesh has been excluded.

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TABLE 1.2 STATES AND UNION TERRITORIES BY POPULATION SIZE

Rank in 1991	State/ Union Territory	Population 1991	Per cent to total Population of India 1991	1981	Rank in 1981
1.	Uttar Pradesh	139, 112, 287	16.44	16.22	1
2.	Bihar	86, 374,465	10.21	10.23	2
3.	Maharashtra	78,937, 187	9.33	9.19	3
4.	West Bengal	68,077,965	8.04	7.99	4
5.	Andhra Pradesh	66,508,008	7.86	7.84	5
6.	Madhya Pradesh	66,181,170	7.82	7.64	6
7.	Tamil Nadu	55,858,946	6.60	7.08	7
8.	Karnataka	44,977,201	5.31	5.43	8
9.	Rajasthan	44,005,990	5.20	5.01	9
10.	Gujarat	41,309,582	4.88	4.99	10
11.	Orissa	31,659,736	3.74	3.86	11
12.	Kerala	29,098,518	3.44	3.72	12
13.	Assam	22,414,322	2.65	2.64	13
14.	Punjab	20, 281,969	2.40	2.46	14
15.	Haryana	16,463,648	1.94	1.89	15
16.	Delhi	9,420,644	1.11	0.91	16
17.	Jammu & Kashmir	7,718,700	0.91	0.88	17
18.	Himachal Pradesh	5,170,877	0.61	0.63	18
19.	Tripura	2,757,205	0.33	0.30	19
20.	Manipur	1,837,149	0.22	0.21	20
21.	Meghalaya	1,774,778	0.21	0.19	21
22.	Nagaland	1,209,546	0.14	0.11	22
23.	Goa	1,169,793	0.14	0.15	23
24.	Arunachal Pradesh	864,558	0.10	0.09	24
25.	Pondicherry	807,785	0.09	0.09	25
26.	Mizoram	689,756	0.08	0.07	26
27.	Chandigarh	642,015	0.08	0.07	27
28.	Sikkim	406,457	0.05	0.05	28
29.	Andaman & Nicobar Islands	280,661	0.03	0.03	29
30.	Dadra and Nagar Haveli	138,477	0.02	0.01	30
31.	Daman and Diu	101,586	0.01	0.01	31
32.	Lakshadweep	51,707	0.01	0.01	32

Source : Census of India 1991 final population totals

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TABLE 1.3 STATES AND UNION TERRITORIES BY DENSITY (1991)

Rank in 1991	State/ Union Territory	Density 1981	Density 1991
1.	Delhi	4,194	6,319
2.	Chandigarh	3,961	5,620
3.	Lakshadweep	1,258	1,615
4.	Pondicherry	1,229	1,605
5.	Daman and Diu	705	906
6.	West Bengal	615	766
7.	Kerala	655	747
8.	Bihar	402	497
9.	Uttar Pradesh	377	471
10.	Tamil Nadu	372	428
11.	Punjab	333	401
12.	Haryana	292	369
13.	Goa	272	316
14.	Assam	230	284
15.	Dardra and Nagar Haveli	211	282
	INDIA	216	267
16.	Tripura	196	262
17.	Maharashtra	204	256
18.	Andhra Pradesh	195	241
19.	Karnataka	194	234
20.	Gujarat	174	210
21.	Orissa	169	202
22.	Madhya Pradesh	118	149
23.	Rajasthan	100	128
24.	Himachal Pradesh	77	92
25.	Manipur	64	82
26.	Meghalaya	60	78
27.	Jammu and Kashmir	59	76
28.	Nagaland	47	73
29.	Sikkim	45	57
30.	Andaman and Nicobar Islands	23	34
31.	Mizoram	23	33
32.	Arunachal Pradesh	8	10

Source: Census of India, 1991. Provisional population totals.

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TABLE 1.4 LITERACY RATE : 1951-1991

Year	Persons	Males	Females
1951	18.33	27.16	8.86
1961	28.31	40.40	15.34
1971	34.45	45.95	21.97
1981	43.56	56.37	29.75
	(41.42)	(53.45)	(28.46)
1991[1]	52.21	64.13	39.29

[1] Literacy rate (7+)

Notes :

1. Literacy rates for 1951, 1961 and 1971 relate to population aged five years and above. The rates for the years 1981 and 1991 relate to the population aged seven years and above. The literacy rates for the population aged five years and above in 1981 have been shown in brackets.
2. The 1981 rates exclude Assam where the 1991 census could not be conducted. The 1991 census rates exclude Jammu and Kashmir where the 1991 census is yet to be conducted.

TABLE 1.5 LITERACY RATE AMONG PERSONS, MALES AND FEMALES IN STATES/UTs.

Sl. No.	State or Union Territory	Total Rural Urban	Literacy Rate (7+) Persons	Males	Females
States					
1	Andhra Pradesh	Total	44.09	55.13	32.72
		Rural	35.74	47.28	23.92
		Urban	66.35	75.87	56.41
2	Arunachal Pradesh	Total	41.59	51.45	29.69
		Rural	37.02	47.00	25.31
		Urban	71.59	77.99	62.23
3	Assam	Total	52.89	61.87	43.03
		Rural	49.32	58.66	39.19
		Urban	79.39	84.37	73.32
4	Bihar	Total	38.48	52.49	22.89
		Rural	33.83	48.31	17.95
		Urban	67.89	77.72	55.94
5	Goa	Total	75.51	83.64	67.09
		Rural	72.31	81.71	62.87
		Urban	80.10	86.33	73.38
6	Gujarat	Total	61.29	73.13	48.64
		Rural	53.09	66.84	38.65
		Urban	76.54	84.56	67.70

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7	Haryana	Total	55.85	69.10	40.47
		Rural	49.85	64.78	32.51
		Urban	73.66	81.96	64.06
8	Himachal Pradesh	Total	63.86	75.36	52.13
		Rural	61.86	73.89	49.79
		Urban	84.17	88.97	78.32
9	Karnataka	Total	56.04	67.26	44.34
		Rural	47.69	60.30	34.76
		Urban	74.20	82.04	65.74
10	Kerala	Total	89.81	93.62	86.17
		Rural	88.92	92.91	85.12
		Urban	92.25	95.58	89.06
11	Madhya Pradesh	Total	44.20	58.42	28.85
		Rural	35.87	51.04	19.73
		Urban	70.81	81.32	58.92
12	Maharashtra	Total	64.87	76.56	52.32
		Rural	55.52	69.74	40.96
		Urban	79.20	86.41	70.87
13	Manipur	Total	59.89	71.63	47.60
		Rural	55.79	67.64	43.26
		Urban	70.53	82.11	58.67
14	Meghalaya	Total	49.10	53.12	44.85
		Rural	41.05	44.83	37.12
		Urban	81.74	85.72	77.32
15	Mizoram	Total	82.27	85.61	78.60
		Rural	72.47	77.36	67.03
		Urban	93.45	95.15	91.61
16	Nagaland	Total	61.65	67.62	54.75
		Rural	57.23	63.42	50.36
		Urban	83.10	85.94	79.10
17	Orissa	Total	49.09	63.09	34.68
		Rural	45.46	60.00	30.79
		Urban	71.99	81.21	61.18
18	Punjab	Total	58.51	65.66	50.41
		Rural	52.77	60.71	43.85
		Urban	72.08	77.26	66.12
19	Rajasthan	Total	38.55	54.99	20.44
		Rural	30.37	47.64	11.59
		Urban	65.33	78.50	50.24

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20	Sikkim	Total	56.94	65.74	46.69
		Rural	54.38	63.49	43.98
		Urban	80.89	85.19	74.94
21	Tamil Nadu	Total	62.66	73.75	51.33
		Rural	54.59	67.18	41.84
		Urban	77.99	86.06	69.61
22	Tripura	Total	60.44	70.58	49.65
		Rural	56.08	67.07	44.33
		Urban	83.09	89.00	76.93
23	Uttar Pradesh	Total	41.60	55.73	25.31
		Rural	36.66	52.05	19.02
		Urban	61.00	69.98	50.38
24	West Bengal	Total	57.70	67.81	46.56
		Rural	50.50	62.05	38.12
		Urban	75.27	81.19	68.25
	Union Territories				
1	Andaman & Nicobar Islands	Total	73.02	78.99	65.46
		Rural	69.73	75.99	61.99
		Urban	81.69	86.59	75.08
2	Chandigarh	Total	77.81	82.04	72.34
		Rural	59.12	65.67	47.83
		Urban	79.87	84.09	74.57
3	Dadra & Nagar Haveli	Total	40.71	53.56	26.98
		Rural	37.00	50.04	23.30
		Urban	78.44	86.35	68.42
4	Daman and Diu	Total	71.20	82.66	59.40
		Rural	61.55	75.23	46.70
		Urban	81.61	91.14	72.35
5	Delhi	Total	75.29	82.01	66.99
		Rural	66.90	78.46	52.15
		Urban	76.18	82.39	68.54
6	Lakshadweep	Total	81.78	90.18	72.89
		Rural	78.89	88.66	68.72
		Urban	83.99	91.31	76.11
7	Pondicherry	Total	74.74	83.68	65.63
		Rural	65.36	76.44	53.96
		Urban	79.88	87.70	71.98

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TABLE 1.6 SEX RATIO-INDIA: 1901-1991

Census Year	Sex ratio
1901	972
1911	964
1921	955
1931	950
1941	945
1951	946
1961	941
1971	930
1981	934
1991[1]	927

Source: Census of India. 1991 Population Totals

[1] Includes projects paper of J & K.

The sex ratio in India has been generally adverse to women. i.e., the number of women per 1,000 men has generally been less than 1,000. Apart from being adverse to women, the sex ratio has also declined over the decades. The slight improvement noticed in the 1981 census has not been maintained in 1991 and in fact there has been a fall by seven points from 934 in 1981 to 927 in 1991. The reason for the general disparity in the sex ratio and the declining trend over the years need further examination.

TABLE 1.7 POPULATION: SCHEDULED CASTES: SCHEDULED TRIBES: 1981

India State/UT	Scheduled castes		Scheduled tribes	
	Population ('000)	% of total population	Population ('000)	% of total population
INDIA	1,04,755	15.8	51,629	7.8
Andhra Pradesh	7,962	14.9	3,176	5.9
Assam	n.a	n.a	n.a	n.a
Bihar	10,142	14.5	5,811	8.3
Gujarat	2,438	7.2	4,849	14.2
Haryana	2,464	19.1	—	—
Himachal Pradesh	1,054	24.6	197	4.6
Jammu & Kashmir	497	8.3	—	—
Karnataka	5,595	15.1	1,825	4.9
Kerala	2,549	10.0	261	1.0
Madhya Pradesh	7,359	14.1	11,987	23.0
Maharashtra	4,480	7.1	5,772	9.2
Manipur	18	1.2	388	27.3
Meghalaya	5	0.4	1,076	80.6
Nagaland	—	—	651	84.0
Orissa	3, 866	14.7	5,915	22.4
Punjab	4,512	26.9	—	—

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Rajasthan	5,839	17.0	4,183	12.2
Sikkim	18	5.8	74	23.3
Tamil Nadu	8,881	18.4	520	1.1
Tripura	310	15.1	584	28.4
Uttar Pradesh	23,453	21.2	233	0.2
West Bengal	12,001	22.0	3,071	5.6
A and N Islands	—	—	22	11.8
Arunachal Pradesh	3	0.5	441	69.8
Chandigarh	64	14.1	—	—
Dadra and Nagar Haveli	2	2.0	82	78.8
Delhi	1,122	18.0	—	—
Goa, Daman and Diu	23	2.2	11	1.0
Lakshadweep	—	—	38	93.8
Mizoram	—	—	462	93.6
Pondicherry	97	16.0	—	—

Source : Registrar General, India.

TABLE 1.8 RURAL AND URBAN POPULATION: 1901-1981

Census Year	Population (million)		Percentage of total population	
	Rural	Urban	Rural	Urban
1901	213	26	89.2	10.8
1911	226	26	89.7	10.3
1921	223	28	88.8	11.2
1931	245	33	88.0	12.0
1941	274	44	86.1	13.9
1951	298	62	82.7	17.3
1961	360	79	82.0	18.0
1971	439	109	80.1	19.9
1981	525	160	76.7	23.3
1991	629	218	74.3	25.7

Source : Registrar General, India.
Includes projected population of Assam

TABLE 1.9 GROWTH OF URBANISATION BY CLASS OF TOWNS

Class of town	Population in '0000s					
	1901	1951	1961	1971	1981	1991[1]
I 1,00, 000 and above	6,661	27,506	39,883	61,226	94,504	1,38,802
	(26.0)	(44.63)	(51.42)	(57.24)	(60.42)	(65.20)
II 50, 000-99,999	2, 892	6,137	8,713	11,680	18,190	23,309
	(11.29)	(9.96)	(11.23)	(10.92)	(11.63)	(10.95)

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III 20, 000-49,999	4, 007	9,688	13,139	17,126	22,409	28,079
	(15.64)	(15.72)	(16.94)	(16.01)	(14.33)	(13.19)
IV 10, 000-19,999	5, 335	8,399	9,902	11,706	14,930	16,531
	(20.83)	(13.63)	(12.77)	(10.94)	(19.54)	(7.77)
V 5, 000-9,999	5,159	7,993	5,329	4,756	5,603	5,532
	(20.14)	(12.97)	(6.87)	(4.45)	(3.58)	(2.60)
VI Less than 5,000	1,562	1,906	0,596	0,473	0,784	0,614
	(6.10)	(3.09)	(0.77)	(0.44)	(0.50)	(0.29)
All Classes	25,616	61,630	77,562	1,06,966	1,56,420	2,12,867
	(100.00)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
Urban population as percentage to total Population	10.84	17.29	17.97	19.91	23.34	25.72

Source: Registrar General, India.
Note: Excludes Assam and Jammu and Kashmir.
Figures within bracktes are percentage of total urban population for the census year.
1. Provisional

TABLE 1.10 AGE STRUCTURE: PROJECTIONS
(As on 1 March)

(Per cent)

Age Group	1980	1985	1990	2000
0-4	14.18	13.91	12.85	10.66
5-14	25.54	24.34	23.15	20.95
15-59	54.07	55.51	57.51	60.80
60 plus	6.21	6.24	6.49	7.59
Total	100.00	100.00	100.00	100.00

Source : Seventh Five Year Plan 1985-90.

TABLE 1.11 DISTRIBUTIONS OF VILLAGES ACCORDING TO POPULATION: 1981

States/UTs	Less than 1000	1,000 to 1,999	2,000 to 4,999	5,000 to 9,999	10,000 and over	Total
Andhra Pradesh	14,085	4,464	5,609	1,058	163	27, 379
Bihar	49, 617	10, 841	5,842	1,054	192	67,546
Gujarat	9,814	5,108	2,725	418	49	18,114
Haryana	3,275	1, 883	1, 346	221	20	6,745
Himachal Pradesh	16, 348	364	92	3	—	16,807
Jammu and Kashmir	5,017	1,046	393	20	1	6,477
Karnataka	18,631	5,239	2,722	401	35	27,028
Kerala	7	13	72	222	905	1,219
Madhya Pradesh	61,029	8,118	2,046	155	4	71,352
Maharashtra	26, 101	8,954	3,604	579	116	39,354
Manipur	1,758	174	90	12	1	2,035
Meghalaya	4,793	85	24	neg	—	4,902

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Nagaland	921	143	47	1	—	1,112
Orissa	40,710	4,561	1,234	47	1	46,553
Punjab	8,146	2,819	1,256	120	1	12,342
Rajasthan	26,823	5,468	2,335	321	21	34,968
Sikkim	372	60	8	—	—	440
Tamil Nadu	5,698	4,570	4,381	1,000	182	15,831
Tripura	265	253	274	56	8	856
Uttar Pradesh	83,235	20,380	8,148	751	52	1,12,566
West Bengal	25,319	7,538	4,383	702	82	38,024
A and N Islands	460	23	8	—	—	491
Arunachal Pradesh	3,176	63	16	2	—	3,257
Chandigarh	12	5	7	—	—	24
Dadra and Nagar Haveli	33	27	7	3	—	70
Delhi	54	74	71	15	—	214
Goa Daman and Diu	185	102	90	34	1	412
Lakshadweep	1	1	4	1	—	7
Mizoram	629	62	30	—	—	721
Pondicherry	209	48	28	6	—	291
All India[1]	4,06,723	94,486	46,892	7,202	1,834	5,57,137

Source Registar General India.
[1] Excludes Assam.

TABLE 1.12 POPULATION OF MILLION PLUS CITIES.

City	Population 1'000s 1981	1951	Growth ratio 1981/1951	1981 Sex ratio	Literacy ratio
Calcutta	9,194	4, 670	1.97	781	65
Greater Bombay	8, 243	2, 967	2.78	772	68
Delhi	5,729	1, 437	3.99	808	63
Madras	4, 289	1, 542	2.78	930	67
Bangalore	2, 922	786	3.72	896	64
Hyderabad	2, 546	1, 131	2.25	919	58
Ahmadabad	2, 548	877	2.91	869	63
Kanpur	1, 639	705	2.32	804	55
Pune	1,686	609	2.77	880	67
Nagpur	1, 302	485	2.68	910	66
Lucknow	1, 008	497	2.03	832	58
Jaipur	1, 015	304	3.34	861	54

Source:. Part II-A (ii) Series I India
General Population Table A-4

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TABLE 1.13 POPULATION BY RELIGION

Religious group	1961 Number (million)	1961 Percentage to total	1971 Number (million)	1971 Percentage to total	1981 Number (million)	1981 Percentage to total
Hindus	366.5	83.5	453.3	82.7	549.7	82.6
Muslims	46.9	10.7	61.4	11.2	75.6	11.4
Christians	10.7	2.4	14.2	2.6	16.2	2.4
Sikhs	7.8	1.8	10.4	1.9	13.1	2.0
Buddhists	3.2	0.7	3.8	0.7	4.7	0.7
Jains	2.0	0.5	2.6	0.5	3.2	0.5
Others[1]	1.6	0.4	2.2	0.4	2.8	0.4
Total	439.2	100.0	548.2	100.0	665.3	100.0

Source : Census of India 1981.

[1] Including unclassified persons.
Note: 1981 data do not include Assam.

TABLE 1.14 POPULATION AND PERCENTAGES FOR PRINCIPAL LANGUAGES-1971-1981.

Languages	Number (in millions) 1971	Number (in millions) 1981	Percentages 1971	Percentages 1981
Hindi	208.5	264.5	38.0	42.9
Bengali	44.8	51.3	8.2	8.3
Telugu	44.8	50.6	8.2	8.2
Marathi	41.8	49.5	7.6	8.0
Tamil	37.7	3.8	6.9	0.6
Urdu	28.6	34.9	5.2	5.7
Gujarati	25.9	33.1	4.7	5.4
Malayalam	21.9	25.7	4.0	4.2
Kannada	21.7	25.7	4.0	4.2
Oriya	19.9	23.0	3.6	3.7
Punjabi	14.1	19.6	2.6	3.2
Assamese	9.0	0.1	1.6	0.01
Sindhi	1.7	2.0	0.3	0.3
Kashmiri	2.5	3.2	0.5	0.5

Note:
1. This statement excludes Assam as no census was taken there due to disturbed conditions prevailing at the time of 1981 census.
2. This statement excludes language figures of Tamil Nadu as the entire record of Tamil Nadu state under 'p' sample project have been lost due to flood.

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2 National Symbols

NATIONAL FLAG

NATIONAL flag is horizontal tricolour of deep saffron (*Kesari*) at the top, white in the middle and dark green at the bottom in equal proportion. Ratio of the width of the flag to its length is two to three. In the centre of the white band is a navy blue wheel which represents the *Charkha*. Its design is that of the wheel which appears on the abacus of the Sarnath Lion Capital of Ashoka. Its diameter approximates to the width of the white band and it has 24 spokes.

Design of the national flag was adopted by the Constituent Assembly of India on 22 July 1947. Its use and display are regulated by a code.

STATE EMBLEM

State emblem is an adaptation from the Sarnath Lion Capital of Ashoka. In the original, there are four lions, standing back to back, mounted on an abacus with a frieze carrying sculptures in high relief of an elephant, a galloping horse, a bull and a lion separated by intervening wheels over a bell-shaped lotus. Carved out of a single block of polished sandstone, the capital is crowned by the Wheel of the Law (*Dharma Chakra*).

In the state emblem adopted by the Government of India on 26 January 1950, only three lions are visible, the fourth being hidden from view. The wheel appears in relief in the centre of the abacus with a bull on right and a horse on left and the outlines of other wheels on extreme right and left. The bell-shaped lotus has been omitted. The words *Satyameva Jayate* from *Mundaka Upanishad*, meaning 'Truth Alone Triumphs', are inscribed below the abacus in the *Devanagari* script.

NATIONAL ANTHEM

The song *Jana-gana-mana*, composed by Rabindranath Tagore, was adopted by the Constituent Assembly as the National Anthem of India on 24 January 1950. It was first sung on 27 December 1911 at the Calcutta session of the Indian National Congress. The complete song consists of five stanzas. First stanza consists full version of the national anthem. It reads:

Jana-gana-mana-adhinayaka, jaya he
Bharata-bhagya-vidhata
Punjab-Sindhu-Gujarata-Maratha-
Dravida-Utkala-Banga

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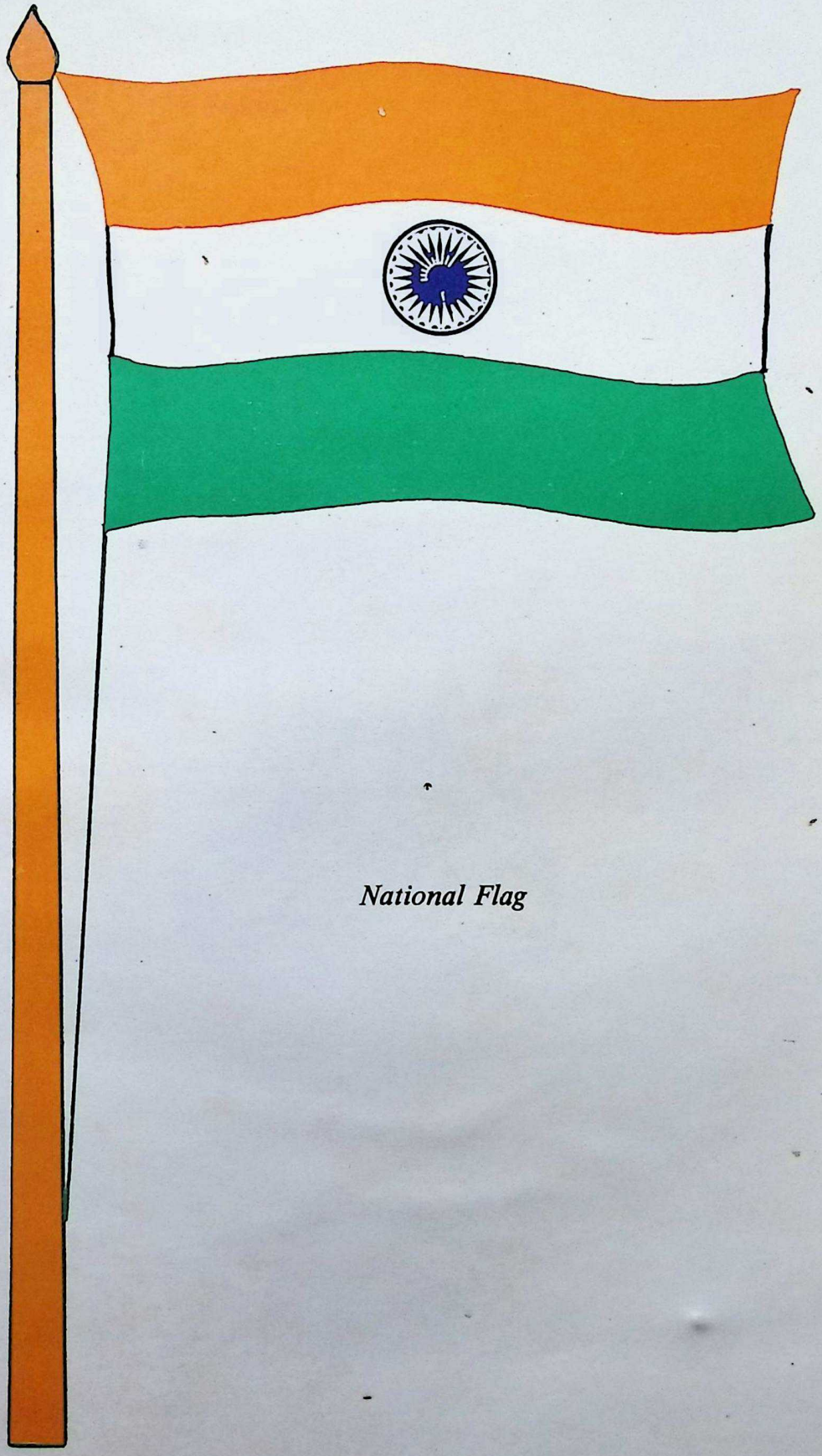

National Flag

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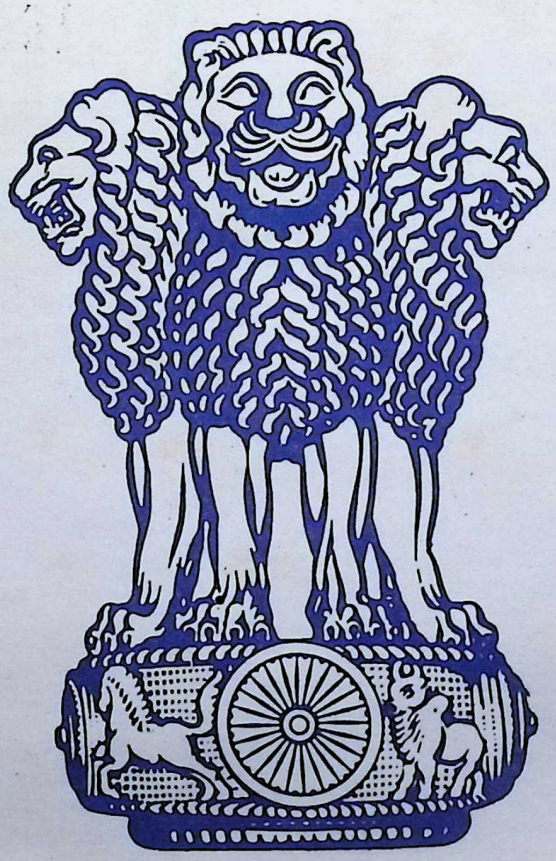

सत्यमेव जयते

National Emblem

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पुस्तकालय
पुस्तकालय
गुरुकुल कांगड़ी विश्वविद्यालय

Vindhya-Himachala-Yamuna-Ganga
Uchchala-Jaladhi-taranga,
Tava shubha name jage;
Tava shubha asisa mage,
Gahe tava jaya-gatha,
Jana-gana-mangala-dayaka jaya he
Bharata-bhagya-vidhata,
Jaya he, jaya he, jaya he,
Jaya jaya jaya, jaya he !

109053

Playing time of the full version of the National Anthem is approximately 52 seconds. A short version consisting of first and last lines of the stanza (playing time approximately 20 seconds) is also played on certain occasions. The following is Tagore's English rendering of this stanza:

Thou art the ruler of the minds of all people,
dispenser of India's destiny.
Thy name rouses the hearts of Punjab, Sind, Gujarat and Maratha,
Of the Dravida and Orissa and Bengal;
It echoes in the hills of the Vindyas and Himalayas,
mingles in the music of Jamuna and Ganges and is chanted by the waves of the Indian Sea.
They pray for thy blessings and sing thy praise.
The saving of all people waits in thy hand,
thou dispenser of India's destiny.
Victory, victory, victory to thee.

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IND-I

NATIONAL SONG

The song *Vande Mataram,* composed by Bankimchandra Chatterji, was a source of inspiration to the people in their struggle for freedom. It has an equal status with *Jana-gana-mana.* The first political occasion when it was sung was the 1896 session of the Indian National Congress. The following is the text of its first stanza:

Vande Mataram!
Sujalam, suphalam, malayaja shitalam,
Shasyashyamalam, Mataram!
Shubhrajyotsna pulakitayaminim,
Phullakusumita drumadala shobhinim,
Suhasinim sumadhura bhashinim,
Sukhadam varadam, Mataram!

English translation of the stanza rendered by Sri Aurobindo in prose is :

1 As published in volume Eight of Sri Aurobindo Birth Centenary Library Popular Edition 1972.

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I bow to thee, Mother,
richly-watered, richly-fruited,
cool with the winds of the south,
dark with the crops of the harvests,
the Mother!
Her nights rejoicing in the glory of the moonlight,
her lands clothed beautifully with her trees in flowering bloom,
sweet of laughter, sweet of speech,
the Mother, giver of boons, giver of bliss.

NATIONAL CALENDAR

National Calendar based on the *Saka* Era with *Chaitra* as its first month and a normal year of 365 days was adopted from 22 March 1957 along with Gregorian calendar for the following official purposes: (i) Gazette of India, (ii) news broadcasts by All India Radio, (iii) calendars issued by the Government of India and (iv) Government communications addressed to the members of public.

Dates of the national calendar have a permanent correspondence with dates of Gregorian calendar: I Chaitra falling on 22 March normally and on 21 March in leap year.

NATIONAL ANIMAL

The magnificent Tiger Panthera *tigris* (linnaeus), the national animal of India, is a rich-coloured well-striped animal with a short coat. The combination of grace, strength, agility and enormous power has earned the tiger great respect and high esteem. Out of eight races of the species known, the Indian race known as the Royal Bengal Tiger, is found throughout the country except the north-western region, and also in the neighbouring countries such as Nepal, Bhutan and Bangladesh. The tiger occupies a variety of habitats from dry open jungles, humid ever-green forests to mangrove swamps.

To check the dwindling population of tigers in India, which came down to just 1,827 in 1972, a massive conservation programme was initiated in April 1973, known as the 'Project Tiger.' This project aims to maintain a viable population of tigers in India for scientific, economic, aesthetic, cultural and ecological values. Since then, the tiger population has shown a gradual increase and the census of 1989 puts the tiger population of the country at 4,334. So far, 19 tiger reserves have been established in the country under this project, covering over 29, 716 sq km forest area.

NATIONAL BIRD

The Indian peacock *Pavo Cristatus* (linnaeus) is a colourful, swan-sized bird with a fan-shaped crest of feathers on its head, a white patch under the eye

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and a long-slender neck. The male of the species is more colourful than the female with glistening blue breast and neck and a spectacular bronze-green train of around 200 elongated feathers. The female is brownish, slightly smaller than the male and it lacks the train. The elaborate courtship dance of the male by fanning out the tail and quivering the feathers is a gorgeous sight.

The peacock is widely found in the Indian sub-continent from the south and east of the Indus river, Jammu and Kashmir, east to Assam, south to Mizoram and the whole of the Indian peninsula. The peacock enjoys full protection from the people as it is never molested on religious and sentimental grounds. It is fully protected under the Indian Wildlife (Protection) Act, 1972.

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3 The Polity

INDIA, a union of states, is a Sovereign Socialist Secular Democratic Republic with a parliamentary system of government. The Republic is governed in terms of the Constitution, which was adopted by Constituent Assembly on 26 November 1949 and came into force on 26 January 1950.

The Constitution which envisages parliamentary form of government is federal in structure with unitary features. President of India is constitutional head of executive of the Union. Article 74(I) of the Constitution provides that there shall be a Council of Ministers with the Prime Minister as head to aid and advise President who shall, in exercise of his functions, act in accordance with such advice. Real executive power thus vests in Council of Ministers with Prime Minister as head. Council of Ministers is collectively responsible to the House of the People (Lok Sabha). Similarly, in states, Governor is head of executive, but it is the council of ministers with chief minister as head in whom real executive power vests. Council of ministers of a state is collectively responsible to legislative assembly.

The Constitution distributes legislative power between Parliament and state legislatures and provides for vesting of residual powers in Parliament. Power to amend the Constitution also vests in Parliament.

The constitution has provision for independence of judiciary, Comptroller and Auditor-General, Public Service Commissions and Chief Election Commissioner.

THE UNION AND ITS TERRITORY

India comprises 25 states and seven union territories. States are: Andhra Pradesh, Assam, Arunachal Pradesh, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Union territories are: Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Delhi, Lakshadweep and Pondicherry.

CITIZENSHIP

The Constitution of India provides for a single and uniform citizenship for whole of India. Every person who was at commencement of the Constitution (26 January 1950) domiciled in the territory of India and: (a) who was born in the territory of India or (b) either of whose parents was born in the territory of India or (c) who has been ordinarily resident in the territory of

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India for not less than five years immediately preceding such commencement, shall be a citizen of India. The Citizenship Act, 1955, provides for acquisition and termination of citizenship after the commencement of the Constitution.

Section 4(1) of the Citizenship Act, 1955 was amended on 10 December 1992 to grant equal rights to women with men respect to the nationality of their children born outside India.

FUNDAMENTAL RIGHTS

The Constitution offers all citizens, individually and collectively, some basic freedoms. These are guaranteed in the Constitution in form of six broad categories of Fundamental Rights which are justiciable. Articles 12 to 35 contained in Part III of the Constitution deal with Fundamental Rights. These are: (i) right to equality including equality before law, prohibition of discrimination on grounds of religion, race,caste, sex or place of birth and equality of opportunity in matters of employment; (ii) right to freedom of speech and expression; assembly; association or union; movement; residence; and right to practise any profession or occupation (some of these rights are subject to security of the State, friendly relations with foreign countries, public order, decency or morality); (iii) right against exploitation, prohibiting all forms of forced labour, child labour and traffic in human beings; (iv) right to freedom of conscience and free profession, practice and propagation of religion; (v) right of any section of citizens to conserve their culture, language or script and right of minorities to establish and administer educational institutions of their choice, and (vi) right to constitutional remedies for enforcement of Fundamental Rights.

FUNDAMENTAL DUTIES

By the 42nd Amendment of the Constitution, adopted in 1976, Fundamental Duties of the citizens have also been enumerated. Article 51 'A' contained in Part IV A of the Constitution deals with Fundamental Duties. These enjoin upon a citizen, among other things, to abide by the Constitution, to cherish and follow noble ideals which inspired our national struggle for freedom, to defend the country and render national service when called upon to do so and to promote harmony and spirit of common brotherhood amongst all people of India transcending religious, linguistic and regional or sectional diversities.

DIRECTIVE PRINCIPLES OF STATE POLICY

The Constitution lays down certain Directive Principles of State Policy which though not justiciable, are 'fundamental in governance of the country' and it is 'the duty of the State to apply these principles in making laws'. These lay down that the State shall strive to promote welfare of people by securing and protecting as effectively as it may a social order in which justice—social, economic and political, shall inform all institutions of national life. The State shall direct its policy in such a manner as to secure

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the right of all men and women to an adequate means of livelihood, equal pay for equal work and within limits of its economic capacity and development, to make effective provision for securing the right to work, education and to public assistance in the event of unemployment, old age, sickness and disablement or other cases of undeserved want. The State shall also endeavour to secure to workers a living wage, humane conditions of work, a decent standard of life and full involvement of workers in management of industries.

In economic sphere, the State is to direct its policy in such a manner as to secure distribution of ownership and control of material resources of community to subserve the common good and to ensure that operation of economic system does not result in concentration of wealth and means of production to common detriment.

Some of the other important directives relate to provision of opportunities and facilities for children to develop in a healthy manner, free and compulsory education for all children up to the age of 14; promotion of educational and economic interests of scheduled castes, scheduled tribes and other weaker sections; organisation of village *panchayats*; separation of judiciary from executive; promulgation of a uniform civil code for whole country; protection of national monuments; promotion of justice on a basis of equal opportunity; provision of free legal aid; protection and improvement of environment and safeguarding of forests and wildlife of country, and promotion of international peace and security, just and honourable relations between nations, respect for international law, treaty obligations and settlement of international disputes by arbitration.

THE UNION

EXECUTIVE

The Union executive consists of President, Vice President and Council of Ministers with Prime Minister at the head to aid and advise President.

PRESIDENT

President is elected by members of an electoral college consisting of elected members of both Houses of Parliament and Legislative Assemblies of the states in accordance with the system of proportional representation by means of single transferable vote. To secure uniformity among states *inter se* as well as parity between the states as a whole and the Union; suitable weightage is given to each vote. President must be a citizen of India, not less than 35 years of age and qualified for election as member of the Lok Sabha. His term of office is five years and he is eligible for re-election. His removal from office is to be in accordance with procedure prescribed in Article 61 of the Constitution. He may, by writing under his hand addressed to Vice President, resign his office.

Executive power of the Union is vested in President and is exercised by him either directly or through officers subordinate to him in accordance

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with the Constitution. Supreme Command of defence forces of the Union also vests in him. President summons, prorogues, addresses, sends messages to Parliament and dissolves the Lok Sabha; promulgates Ordinances at any time, except when both Houses of Parliament are in session; makes recommendations for introducing financial and money bills and gives assent to bills; grants pardons, reprieves, respites or remissions of punishment or suspends, remits or commutes sentences in certain cases. When there is a failure of the constitutional machinery in a state, he can assume to himself all or any of the functions of the government of that state. President can proclaim emergency in the country if he is satisfied that a grave emergency exists whereby security of India or of any part of its territory is threatened whether by war or external aggression or armed rebellion.

VICE PRESIDENT

Vice President is elected by members of an electoral college consisting of members of both Houses of Parliament in accordance with the system of proportional representation by means of single transferable vote. He must be a citizen of India, not less than 35 years of age and eligible for election as a member of the Rajya Sabha. His term of office is five years and he is eligible for re-election. His removel from office is to be in accordance with procedure prescribed in Article 67 b.

Vice President is ex-officio Chairman of the Rajya Sabha and acts as President when the latter is unable to discharge his functions due to absence, illness or any other cause or till the election of a new President (to be held within six months) when a vacancy is caused by death, resignation or removal or otherwise of President. While so acting, he ceases to perform the function of the Chairman of the Rajya Sabha.

COUNCIL OF MINISTERS

There is a Council of Ministers headed by Prime Minister to aid and advise President in exercise of his functions. Prime Minister is appointed by President who also appoints other ministers on the advice of Prime Minister. The Council is collectively responsible to the Lok Sabha. It is the duty of Prime Minister to communicate to President all decisions of Council of Ministers relating to administration of affairs of the Union and proposals for legislation and information relating to them.

The Council of Ministers comprises ministers who are members of Cabinet, ministers of state (independent charge), ministers of state and deputy ministers.

LEGISLATURE

Legislature of the Union which is called Parliament, consists of President and two Houses, known as Council of States (Rajya Sabha) and House of the People (Lok Sabha). Each House of Parliament has to meet within six months of its previous sitting. A joint sitting of two Houses can be held in certain cases.

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RAJYA SABHA

According to the Constitution the Rajya Sabha shall consist of not more than 250 members. The Constitution provides that the Rajya Sabha shall consist of 12 members having special knowledge or practical experience in respect of such matters as literature, science, art and social service who shall be nominated by the President; and not more than 238 representatives of the states and of the union territories. Elections to the Rajya Sabha are indirect; members representing states are elected by elected members of legislative assemblies of the states in accordance with the system of proportional representation by means of the single transferable vote and those representing union territories are chosen in such manner as Parliament may by law prescribe. The Rajya Sabha is not subject to dissolution, one-third of its members retire on expiry of every second year.

The Rajya Sabha at present has 245 seats including 233 for members representing states and union terrritories and 12 members nominated by the President. Names of members of the Rajya Sabha and their party affiliations are given in *Appendices*.

LOK SABHA

The Lok Sabha is composed of representatives of people chosen by direct election on the basis of adult suffrage. Maximum strength of the House envisaged by the Constitution is now 552 (530 members to represent states, 20 to represent union territories and not more than two members of Anglo-Indian community to be nominated by President, if, in his opinion, that community is not adequately represented in the House). Total elective membership of the Lok Sabha is distributed among states in such a way that ratio between number of seats allotted to each state and population of the state is, as far as practicable, the same for all states. The Lok Sabha at present consists of 545 members. Of these, 530 members are directly elected from 25 states and 13 from seven union territories while two are nominated by President to represent Anglo-Indian community.

Allocation of seats in the present Lok Sabha is based on 1971 census and, under the 42nd Amendment of the Constitution (1976), will continue to be so based until figures of the first census taken after 2000 AD become available.

Term of the Lok Sabha, unless dissolved, is five years from the date appointed for its first meeting. However, while a proclamation of emergency is in operation, this period may be extended by Parliament by law for a period not exceeding one year at a time and not extending, in any case, beyond a period of six months after the proclamation has ceased to operate. Ten Lok Sabhas have been constituted so far. Term of each Lok Sabha and its Speaker(s) is given in table 3.1.

State-wise allocation of seats in two Houses and party position in the Lok Sabha is given in table 3.2. Names of members of the Tenth Lok Sabha, their constituencies and party affiliations are given in *Appendices*.

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QUALIFICATIONS FOR MEMBERSHIP OF PARLIAMENT

In order to be chosen a member of Parliament, a person must be a citizen of India and not less than 30 years of age in case of the Rajya Sabha and not less than 25 years of age in case of the Lok Sabha. Additional qualifications may be prescribed by Parliament by law.

FUNCTIONS AND POWERS OF PARLIAMENT

As in other parliamentary democracies, Parliament of India has cardinal functions of legislation, overseeing of administration, passing of budget, ventilation of public grievances, discussing various subjects like development plans, international relations and national policies. Distribution of powers between the Union and states, followed in the Constitution, emphasises in many ways general predominance of Parliament in legislative field. Apart from wide-range of subjects, even in normal times Parliament can, under certain circumstances, assume legislative power, a subject falling within the sphere exclusively reserved for the states. Parliament is also vested with powers to impeach President and to remove judges of Supreme Court and High Courts, Chief Election Commissioner and Comptroller and Auditor-General in accordance with procedure laid down in the Constitution.

All legislation requires consent of both Houses of Parliament. In case of money bills, however, will of the Lok Sabha prevails. Delegated legislation is also subject to review and control by Parliament. Besides power to legislate, the Constitution vests in Parliament power to initiate amendment of the Constitution. A list of laws made by Parliament during 1992 is given in *Appendices*.

PARLIAMENTARY COMMITTEES

Functions of Parliament are not only varied in nature, but considerable in volume. Time at its disposal is limited. It cannot, therefore, give close consideration to all legislative and other matters that come up before it. A good deal of its business is, therefore, transacted in committees.

Both Houses of Parliament have a similar committee structure, with a few exceptions. Their appointment, terms of office, functions and procedure of conducting their business, are also more or less, similar and are regulated under provisions of rules made by two Houses under Article 118(1) of the Constitution.

Broadly, parliamentary committees are of two kinds, standing committees and *ad hoc* committees. The former are elected or appointed every year or periodically and their work goes on, more or less, on a continuous basis. The latter are appointed on an *ad hoc* basis as need arises and they cease to exist as soon as they complete the task assigned to them and have submitted their reports.

Standing Committees: Among standing committees, three financial committees—Committees on Estimates, Public Accounts and Public Undertakings

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constitute a distinct group and they keep an unremitting vigil over Government expenditure and performance. While members of the Rajya Sabha are associated with committees on Public Accounts and Public Undertakings, members of the Committee on Estimates are drawn entirely from the Lok Sabha.

Estimates Committee reports on 'what economies, improvements in organisation, efficiency or administrative reform consistent with policy underlying the estimates' may be effected. It also examines whether the money is well laid out within limits of the policy implied in the estimates and suggests the form in which estimates shall be presented to Parliament. *Public Accounts Committee* scrutinises appropriation and finance accounts of Government and reports of the Comptroller and Auditor-General. It ensures that public money is spent in accordance with Parliament's decision and calls attention to cases of waste, extravagance, loss or nugatory expenditure. *Committee on Public Undertakings* examines reports and accounts of certain specified public undertakings and reports of the Comptroller and Auditor-General, if any. It also examines whether public undertakings are being run efficiently and managed in accordance with sound business principles and prudent commercial practices. Control exercised by these committees is of a continuous nature. They gather information through questionnaires, memoranda from representative non-official organisations and knowledgeable individuals, on-the-spot studies of organisations and oral examination of non-official and official witnesses. Between them, Financial Committees examine and report on a fairly large area of multifarious Government activities at the Centre.

These committees have adequate procedures to ensure that their recommendations are given due consideration by Government. Progress in implementation of recommendations as well as any unresolved differences between committees and Government are set out in 'Action Taken Reports' which are presented to the House from time to time.

Besides these three Financial Committees, Parliament has set up three more commitees since 18 August 1989, the firstever departmentally-related standing *Subject Committees* one each for agriculture, science and technology and environment and forests. Each committee, consists of 15 members of the Lok Sabha and seven members of the Rajya Sabha.

These Subject Committees, scrutinise on a close, constant and concurrent basis, functioning and activities of concerned ministries/departments/allied organisations and take up for furher examination, subjects of topical interest as may arise after detailed studies. Thus, with the setting up of these Subject Committees, a new dimension has been added in the structure and process of administrative accountability and legislative surveillance.

Other standing committees, in each House, divided in terms of their functions, are (i) Committees to Inquire: (a) *Committee on Petitions* examines petitions on bills and on matters of general public interest and also enter-

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tains representations on matters concerning Central subjects, and (b) *Committee of Privileges* examines any question of privilege referred to it by the House or Speaker/Chairman. (ii) Committees to Scrutinise: (a) *Committee on Government Assurances* keeps track of all assurances, promises, undertakings, etc. given by ministers in the House and pursues them till they are implemented; (b) *Committee on Subordinate Legislation* scrutinises and reports to the House whether power to make regulations, rules, sub-rules, bye-laws, etc., conferred by the Constitution or Statutes is being properly exercised by authorities so authorised, and (c) *Committee on Papers laid on the Table* examines all papers laid on the table of the House by ministers, other than statutory notifications and orders which come within the purview of the Committee on Subordinate Legislation, to see whether there has been compliance with provisions of the Constitution, Act, rule or regulation under which the paper has been laid. (iii) Committees relating to day-to-day business of the House: (a) *Business Advisory Committee* recommends allocation of time for items of Government and other business to be brought before the House; (b) *Committee on Private Members' Bills and Resolutions of the Lok Sabha* classifies and allocates time to bills introduced by private members, recommends allocation of time for discussion on private members' resolutions and examines Constitution Amendment Bills before their introduction by private members in the Lok Sabha.The Rajya Sabha does not have such a Committee. It is the Business Advisory Committee of that House which recommends allocation of time for discussion on stage or stages of Private Members Bills and Resolutions; (c) *Rules Committee* considers matters of procedure and conduct of business in the House and recommends amendments or additions to the Rules, and (d) *Committee on Absence of Members from the Sittings of the House of the Lok Sabha* considers all applications from members for leave of absence from sittings of the House. There is no such Committee in the Rajya Sabha. Applications from members for leave of absence are considered by the House itself. (iv) Committee on the Welfare of Scheduled Castes and Scheduled Tribes, on which members from both Houses serve, considers all matters relating to welfare of scheduled castes and scheduled tribes which come within the purview of the Union Government and keeps a watch whether constitutional safeguards in respect of these classes are properly implemented. (v) Committees concerned with provisions of facilities to members: (a) *General Purposes Committee* considers and advises Speaker/Chairman on matters concerning affairs of the House, which do not appropriately fall within the purview of any other Parliamentary Committee, and (b) *House Committee* deals with residential accommodation and other amenities for members. (vi) Joint Committee on Salaries and Allowances of Members of Parliament, constituted under the Salary, Allowances and Pension of Members of Parliament Act, 1954, apart from framing rules for regulating payment of salary, allowances and pension to members of Parliament, also frames rules in respect of amenities like medical, housing, telephone, postal, constituency and secretariat facility. (vii) Joint Committee on Offices of Profit examines composition and character

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of committees and other bodies appointed by Central and state governments and union territory administrations and recommends what offices ought to or ought not to disqualify a person for being chosen as and for being a member of either House of Parliament, and (viii) Library Committee, consisting of members from both Houses, considers matters concerning library of Parliament.

Ad hoc Committees: Such committees may be broadly classified under two heads (a) committees which are constituted from time to time, either by two Houses on a motion adopted in that behalf or by Speaker/Chairman to inquire into and report on specific subjects *(e.g., Committee on the Conduct of Certain Members during President's Address, Committees on Draft Five-Year Plans, Railway Convention Committee, joint Committee on Bofors Contracts, Joint Committee on Fertilizer Pricing and Joint Committee to enquire into irregularities in securities and banking transactions etc.)* and (b) *Select or Joint Committees on Bills* which are appointed to consider and report on a particular bill. These committees are distinguishable from other *ad hoc* committees in as much as they are concerned with bills and procedure to be followed by them is laid down in the Rules of Procedure and Directions by Speaker/Chairman.

LEADERS OF OPPOSITION IN PARLIAMENT

In keeping with their important role, the leaders of opposition in the Rajya Sabha and Lok Sabha are accorded statutory recognition. Salary and other suitable facilities are extended to them through a separate legislation brought into force on 1 November 1977.

GOVERNMENT BUSINESS IN PARLIAMENT

Minister of Parliamentary Affairs has been entrusted with the responsibility of coordinating, planning and arranging Government Business in both Houses of Parliament. In the discharge of this function, he is assisted by two ministers of state, one belonging to the Lok Sabha and another to the Rajya Sabha. The Ministry works under the overall direction of the Cabinet Committee on Parliamentary Affairs. The Minister of Parliamentary Affairs also keeps close and constant contact with the presiding officers, the leaders as well as chief whips and whips of various parties and groups. Further, the ministry arranges meetings of opposition leaders with Prime Minister and/or Ministers concerned to ascertain their views on matters of national importance.

PARLIAMENTARY PRIVILEGES

The Constitution provides for freedom of speech in Parliament. No Member of Parliament can be held liable to any proceedings in any court in respect of anything said or any vote given by him in Parliament or any of its committees. In other respects, powers, privileges and immunities of each House of Parliament and of members and committees of each House shall be such as may from time to time be defined by Parliament by law, and

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until so defined, shall be those of that House and its members and committees immediately before 20 June 1979.

CONSULTATIVE COMMITTEES

Ministry of Parliamentary Affairs constitutes Consultative Committees of Members of Parliament attached to each Ministry. These commitees are meant for informal discussions between the Government and Members of Parliament on policies and programmes of the Government and the manner of implementation thereof. Meetings of these Committees are held both during Parliament Session periods and inter-session periods.

NOMINATION OF MEMBERS OF PARLIAMENT ON GOVERNMENT COMMITTEES

The Minister of Parliamentary Affairs nominates Members of Parliament on Committees, Councils, Commissions etc., set up by the Government. He also selects Members for the various delegations sent abroad by the Government.

IMPLEMENTATION OF ASSURANCES

The Ministry culls out assurances, promises, undertakings etc., given by Ministers in both Houses of Parliament from daily proceedings and forwards them to concerned ministries/departments for implementation. Statements showing action taken by Government in implementation of assurances, after due scrutiny, are laid periodically on the tables of both the Houses by Minister of Parliamentary Affairs.

YOUTH PARLIAMENT

With the objective of inculcating in the student community the basic values of democracy and of enabling them to acquire a proper perspective on the functioning of democratic institution, the Ministry of Parliamentary Affairs organises Youth Parliament Competitions (i) in the Senior Secondary Schools of Delhi Administration and (ii) at National level in the *Kendriya Vidyalayas* every year. The Ministry has also launched a scheme of organising Parliamentary Quiz Contests among 10+2 and university level students.

MATTERS UNDER RULE 377 BY WAY OF SPECIAL MENTIONS

Ministry of Parliamentary Affairs takes follow-up action on matters raised under Rule 377 in Lok Sabha and by way of Special Mentions in Rajya Sabha.

MATTERS RAISED DURING ZERO HOUR

Members of Parliament are allowed to raise certain urgent matters after Question Hour and laying of papers in both Houses, which part of the proceedings is known as 'Zero Hour'. Ministry of Parliamentary Affairs takes follow-up action on matters raised during Zero Hour in both Houses.

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BUREAU OF PARLIMENTARY STUDIES AND TRAINING

Pursuit of excellence has always been the goal of the Lok Sabha Secretariat right from its inception. Emphasis has, therefore, been laid on proper training of staff since fifties. Those days, in-service training programmes used to be organised on an ad hoc basis for the benefit of the newly recruited staff.

The first organised effort to institutionalise parliamentary orientation and training programme was made when, on 1 January 1976, the Bureau of Parliamentary Studies and Training, known as BPST was set up as an integral division of the Lok Sabha Secretariat. It immediately embarked upon several multidimensional, cross-country programmes of training in parliamentary processes and procedures and has been playing a vital and pioneering role in providing the requisite professionalism, expertise and orientation to many of those who have been charged with the responsibility of running or servicing parliamentary institutions. The activities of the Bureau include holding of seminars and orientation programmes for new members of Parliament and of state legislatures, computer awareness programmes for MPs, Hindi classes for non-Hindi knowing Members, training and refresher courses for officers of the Secretariats of Parliament and of the state legislatures, appreciation courses for senior and middle level officials of the Government of India and probationers of the IAS, IFS, IPS and several other all-India and Central services. Organising model Parliaments for university students all over India and training university teachers for conducting such Model Parliaments in their institutions, arranging study visits by members of state legislatures and government officials, students and others and training programmes in Parliamentary Practices and Procedures and Legislative Drafting for parliamentary and legislature officials from India and abroad also form part of the Bureau's activities. The Bureau has recently started preparing video films on subjects such as Parliamentary Questions, Private Members' Bills, Parliamentary Etiquette and Manners and Financial Committees of Parliament. These video films are shown to Members of Parliament as well as participants who come to attend the various courses organised by the Bureau. Some more films are on the anvil. The Bureau makes arrangements for the video coverage of various Parliamentary functions and events.

PARLIAMENTARY MUSEUM AND ARCHIVES

Parliamentary Museum and Archives (PMA), set up by the Lok Sabha Secretariat in Parliament House Annexe, was inaugurated by Hon'ble Speaker, Lok Sabha on 29 December 1989. It has been set up with a view to preserving the past and the present for the future by protecting from the ravages of time and neglect, all the precious records, historic documents and articles connected with the Constitution and Parliament and through them make the history and growth of Parliamentary institutions and the political system better understood.

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The Museum seeks to show with the help of models, charts, illustrations, objects, photographs and other visual techniques, the evolution and functioning of Parliamentary institutions in India and abroad. The Photo Archives of PMA preserves authentic, comprehensive, complete and up-to-date pictorial record of the history of the institutions of Parliament, its activities and of eminent personalities. The Archives Wing of PMA acquires and preserves the records connected with the framing of India's Constitution, the growth and work of Parliamentary institutions and the private papers of Parliamentarians irrespective of their political affiliations.

ADMINISTRATIVE SET-UP

President had made the Government of India (Allocation of Business) Rules, 1961, under the Constitution. It is transacted in ministries, departments, secretariats and offices specified in those Rules (all of which are referred to as 'departments') Allocation of business is made by President on the advise of the Prime Minister, among ministers by assigning one or more departments to the charge of a Minister. A Cabinet Minister is often assisted by a Minister of State. Generally, each department has an officer designated as secretary to the Government of India to advise Minister on policy matters and general administration. Cabinet Secretariat has an important cordinating role in decision-making at highest-level and operates under direction of the Prime Minister. Its functions include submission of cases to Cabinet and its committees, preparation of records of decision taken and follow-up action on their implementation. It also serves committees of secretaries which meet periodically with Cabinet Secretary as head to consider and advise on problems requiring inter-ministerial consultation and coordination. It formulates rules of business and allocates business of government to ministries and departments under direction of Prime Minister and with approval of President. It also arranges to circulates to President, Vice-President, Council of Ministers and other important functionaries, periodical summaries and notes on important developments in each ministry.

MINISTRIES/DEPARTMENTS OF THE GOVERNMENT

As on 2 July 1992, Government consists of the following ministries and departments under the Government of India (Allocation of Business) Rules 1961.

1. Ministry of Agriculture

(i) Department of Agriculture and Cooperation
(ii) Department of Agricultural Research and Education
(iii) Department of Animal Husbandry and Dairying

2. Ministry of Chemicals and Fertilizers

(i) Department of Chemicals and Petro-Chemicals
(ii) Department of Fertilizers

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3. Ministry of Civil Aviation and Tourism

(i) Department of Civil Aviation
(ii) Department of Tourism

4. Ministry of Civil Supplies, Consumer Affairs and Public Distribution
5. Ministry of Coal
6. Ministry of Commerce

(i) Department of Commerce
(ii) Department of Supply

7. Ministry of Communications

(i) Department of Posts
(ii) Department of Telecommunication

8. Ministry of Defence

(i) Department of Defence
(ii) Department of Defence Production and Supplies
(iii) Department of Defence Research and Development

9. Ministry of Environment and Forests
10. Ministry of External Affairs
11. Ministry of Finance

(i) Department of Economic Affairs
(ii) Department of Expenditure
(ii) Department of Revenue

12. Ministry of Food
13. Ministry of Food Processing Industries
14. Ministry of Health and Family Welfare

(i) Department of Health
(ii) Department of Family Welfare

15. Ministry of Home Affairs

(i) Department of Internal Security
(ii) Department of States
(iii) Department of Official Language
(iv) Department of Home

16. Ministry of Human Resource Development

(i) Department of Education
(ii) Department of Youth Affairs and Sports
(iii) Department of Culture
(iv) Department of Women and Child Development

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17. Ministry of Industry

(i) Department of Industrial Development
(ii) Department of Heavy Industry
(iii) Department of Public Enterprises
(iv) Department of Small Scale Industries and Agro and Rural Industries

18. Ministry of Information and Broadcasting
19. Ministry of Labour
20. Ministry of Law and Justice and Company Affairs

(i) Department of Legal Affairs
(ii) Legislative Department
(iii) Department of Justice
(iv) Department of Company Affairs

21. Ministry of Mines
22. Ministry fo Non-Conventional Energy Sources
23. Ministry of Parliamentary Affairs
24. Ministry of Personnel, Public Grievances and Pensions

(i) Department of Personnel and Training
(ii) Department of Administrative Reforms and Public Grievances
(iii) Department of Pensions and Pensioners Welfare

25. Ministry of Petroleum and Natural Gas
26. Ministry of Planning and Programme Implementation

(i) Department of Planning
(ii) Department of Statistics
(iii) Department of Programme Implementation

27. Ministry of Power
28. Ministry of Railways
29. Ministry of Rural Development

(i) Department of Rural Development
(ii) Department of Wastelands Development

30. Ministry of Science and Technology

(i) Department of Science and Technology
(ii) Department of Scientific and Industrial Research
(iii) Department of Bio-Technology

31. Ministry of Steel
32. Ministry of Surface Transport
33. Ministry of Textiles
34. Ministry of Urban Development
35. Ministry of Water Resources

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36. Ministry of Welfare
37. Department of Atomic Energy
38. Department of Electronics
39. Department of Ocean Development
40. Department of Space
41. Cabinet Secretariat
42. President's Secretariat
43. Prime Minister's Office
44. Planning Commission

PUBLIC SERVICES

ALL INDIA SERVICES

In pursuance of Clause (1) of Article 312 of the Constitution, Parliament passed the All-India Services Act, 1951 which provided for constitution of two services, *viz.*, Indian Administrative Service and Indian Police Service. The Act was amended in 1963 to provide for constitution of three more All-India Services, *viz.* Indian Service of Engineers (irrigation, power, buildings and roads), Indian Forest Service and Indian Medical and Health Service. It has, however, been decided not to constitute the Indian Medical and Health Service and the Indian Service of Engineers (irrigation, power, buildings and roads), for the present. The Indian Administrative Service is controlled by the Department of Personnel and Training while the Indian Police Service by the Ministry of Home Affairs and Indian Forest Service by Department of Environment, Forest and Wild Life.

Recruitment to Indian Administrative Service (IAS) is made on the basis of Annual Civil Services Examination conducted by Union Public Service Commission (UPSC). Persons appointed to IAS are allocated to different state cadres. At present there are 21 cadres. The authorised strength of the IAS cadre of all the states put together was 5,349 as on 1 September 1992 and the number of officers in position as on 1 September 1992 was 5,035. After conferment of statehood on Arunachal Pradesh, Goa and Mizoram, ertstwhile union territories cadre has become a joint cadre of union territories with these three states.

CENTRAL SECRETARIAT SERVICES

The Central Secretariat Services consist of the Central Secretariat Service (CSS), Central Secretariat Stenographers' Service (CSSS) and the Central Secretariat Clerical Service (CSCS). The Section Officers' Grade and Assistants' Grade of CSS, all grades of CSSS and CSCS are decentralised. The newly created grade of Principal Private Secretary in CSSS and Selection Grade and Grade I of CSS are centralised. In respect of decentralised cadres, Department of Personnel and Training monitors and assesses the requirements of different cadres for fixing zones of promotion and filling up of vacancies through open competitive and dapartmental examinations.

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TABLE 3.1 LOK SABHA AND ITS SPEAKERS FROM TIME TO TIME

LOK SABHA			SPEAKER[1]		
	Date of first meeting after its constitution	Date of dissolution	Name	From	To
First Lok Sabha	15 May 1952	4 April 1957[2]	Ganesh Vasudev Mavalankar M. Ananthasayanam Ayyangar	15 May 1952 8 March 1956	27 February 1956[3] 10 May 1957
Second Lok Sabha	10 May 1957	31 March 1962[4]	M. Ananthasayanam Ayyangar	11 May 1957	16 April 1962
Third Lok Sabha	16 April 1962	3 March 1967[5]	Hukam Singh	17 April 1962	16 March 1967
Fourth Lok Sabha	16 March 1967	27 December 1970[6]	Neelam Sanjiva Reddy Gurdial Singh Dhillon	17 March 1967 8 August 1969	19 July 1969[7] 19 March 1971
Fifth Lok Sabha	19 March 1971	18 January 1977[8]	Gurdial Singh Dhillon Bali Ram Bhagat	22 March 1971 5 January 1976	1 December 1975[9] 25 March 1977
Sixth Lok Sabha	25 March 1977	22 August 1979[10]	Neelam Sanjiva Reddy K.S. Hegde	26 March 1977 21 July 1977	13 July 1977[11] 22 January 1980
Seventh Lok Sabha	21 January 1980	31 December 1984[12]	Bal Ram Jakhar	22 January 1980	15 January 1985
Eighth Lok Sabha	15 January 1985	27 November 1989[13]	Dr Bal Ram Jakhar	16 January 1985	18 December 1989
Ninth Lok Sabha	18 December 1989	13 March 1991[14]	Rabi Ray	19 December 1989	9 July 1991
Tenth Lok Sabha	9 July 1991	—	Shivraj V. Patil	10 July 1991	Till Date

1. Under Article 94 of the Constitution in case of dissolution of the Lok Sabha. Speaker does not vacate his office until immediately before the first meeting of the House after dissolution.
2. Dissolved 38 days before expiry of its term.
3. Died.

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4. Dissolved 40 Days before expiry of its term.
5. Dissolved 44 days before expiry of its term.
6. Dissolved one year and 79 days before expiry of its term.
7. Resigned.
8. Term of the Lok Sabha, which was to expire on 18 March 1976, was extended by one year up to 18 March 1977 by the House of the People (Extension of Duration) Act, 1976. It was extended for a further period of one year up to 18 March 1978 by the House of the People (Extension of Duration) Amendment Act, 1976. However, House was dissolved after having been in existence for a period of five years, 10 months and six days.
9. Resigned.
10. House was dissolved after having been in existence for a period of two years, four months and 28 days.
11. Resigned.
12. Dissolved 20 days before expiry of its term.
13. Dissolved 48 days before expiry of its term.
14. House was dissolved after having been in existence for a period of one year, two months and 25 days.

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TABLE 3.2 ALLOCATION OF SEATS IN THE TWO HOUSES OF PARLIAMENT AND PARTY POSITION IN LOK SABHA
(As on 1 March 1993)

Sl. No.	State/ UnionTerritory.	No. of seats in Rajya Sabha	No. of seats in Lok Sabha	Cong. (I)	BJP	JD	CPI(M)	CPI	AIADMK	TDP	OTHERS	IND/ NOMI-NATED	Total	Vacancy
STAT														
1.	Andhra Pradesh	18	42	31	1	—	1	1	—	7	1[1]	—	42	—
2.	Arunachal Pradesh	1	2	2	—	—	—	—	—	—	—	—	2	—
3.	Assam	7	14	8	2	—	1	—	—	—	2[2]	1	14	—
4.	Bihar	22	54	1	5	31	1	8	—	—	6[3]	—	52	2
5.	Goa	1	2	2	—	—	—	—	—	—	—	—	2	—
6.	Gujarat	11	26	6	20	—	—	—	—	—	—	—	26	—
7.	Haryana	5	10	9	—	—	—	—	—	—	1[4]	—	10	—
8.	Himachal Pradesh	3	4	2	2	—	—	—	—	—	—	—	4	—
9.	Jammu and Kashmir	4	6	—	—	—	—	—	—	—	—	—	—	6
10.	Karnataka	12	28	23	4	—	—	—	—	—	1[5]	—	28	—
11.	Kerala	9	20	12	—	—	3	—	—	—	4[6]	—	19	1
12.	Madhya Pradesh	16	40	27	12	—	—	—	—	—	1[7]	—	40	—
13.	Maharashtra	19	48	40	5	—	1	—	—	—	2[8]	—	48	—
14.	Manipur	1	2	1	—	—	—	—	—	—	1[9]	—	2	—
15.	Meghalaya	1	2	2	—	—	—	—	—	—	—	—	2	—
16.	Mizoram	1	1	1	—	—	—	—	—	—	—	—	1	—
17.	Nagaland	1	1	1	—	—	—	—	—	—	—	—	1	—
18.	Orrissa	10	21	13	—	6	1	1	—	—	—	—	21	—
19.	Punjab	7	13	11	—	—	—	—	—	—	1[10]	-	12	1
20.	Rajasthan	10	25	13	12	—	—	—	—	—	—	—	25	—
21.	Sikkim	1	1	—	—	—	—	—	—	—	1[11]	—	1	—
22.	Tamil Nadu	18	39	27	—	—	—	—	11	—	—	—	38	1
23.	Tripura	1	2	2	—	—	—	—	—	—	—	—	2	—
24.	Uttar Pradesh	34	85	5	51	22	—	1	—	—	5[12]	—	84	1
25.	West Bengal	16	42	5	—	—	27	3	—	—	7[13]	—	42	—

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UNION TERRITORIES													
26. Andaman and Nicobar Isalands	—	1	1	—	—	—	—	—	—	—	—	1	—
27. Chandigarh	—	1	1	—	—	—	—	—	—	—	—	1	—
28. Dadar and Nagar Haveli	—	1	1	—	—	—	—	—	—	—	—	1	—
29. Daman and Diu	—	1	—	—	—	—	—	—	—	—	—	1	—
30. Delhi	3	7	3	4	—	—	—	—	—	—	—	7	—
31. Lakshadweep	—	1	1	—	—	—	—	—	—	—	—	1	—
32. Pondicherry	1	1	1	—	—	—	—	—	—	—	—	1	—
33. Nominated	—	—	—	—	—	—	—	—	—	—	—	—	—
I. Under Article 331 of the Constitution (Anglo-Indian)	—	2	—	—	—	—	—	—	—	—	2	2	—
II. Under Article 80(1) (a) 0f the Constitution	12	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	245	539	252	119	59	35	14	11	7	33	3	533	12

1. All India Majlis-e-Ittehadul Muslimeen-1,
2. Autonomous State Demand Committee
   Assam Gana Parishad -1
3. Jharkhand Mukti Morcha-6
4. Haryana Vikas Party-1
5. Janta Party-1
6. Indian Congress (Socialist)-1; Muslim League-2; K. Cong. (M)-1
7. Bahujan Samaj Party-1
8. Shiv Sena-2
9. Manipur People's Party-2
10. Bahujan Samaj Party-1
11. Sikkim Sangram Parishad-1
12. Janta Party-1; Samajwadi Party-3; Bahujan Samaj Party-1
13. All India Forward Block-3; Revolutionary Socialist Party-4

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UNION PUBLIC SERVICE COMMISSION

For recruitment to services and posts in Group 'A' and 'B' under the Central Government, the Constitution provides for an independent body known as Union Public Service Commission. Chairman and members of the Commission are appointed by the President. To ensure independence, the Constitution debars its Chairman from further employment under the Government after retirement. A Member of the Commission is, however, eligible for appointment as Chairman of the Commission or of a State Public Service Commission but for no other Government employment.

STAFF SELECTION COMMISSION

Staff Selection Commission initially known as Subordinate Services Commission was set up on 1 July 1976 primarily to make recruitment to non-technical Group 'C' posts under the Central Government except the post for which recruitment is made by Railway Services Commission and industrial establishments. The Commission has also been entrusted with the responsibility of making recruitment to Group 'B' Services like Assistants' Grade and Stenographers' Grade 'C'. The Commission has a Chairman and two Members. The Commission's headquarter and the Office of its Northern Region are in New Delhi. The offices of central, western, north-eastern, eastern and southern regions are at Allahabad, Bombay, Guwahati, Calcutta and Madras respectively. Its sub-regional offices are at Raipur and Bangalore.

OFFICIAL LANGUAGE

Hindi, according to Article 343(1) of the Constitution, is the official language of the Union. But provision was also made in Article 343(2) for continuing the use of English in official work for a period of 15 years *i.e.* upto 25 January 1965) from the date of commencement of the Constitution. Article 343(3) empowered Parliament to provide by law for continued use of English for official purposes even after 25th January 1965. Accordingly, the Official Languages Act, 1963 (amended in 1967) was passed for continuing the use of English in official work even after 25 January 1965. The Act also lays down that both Hindi and English shall compulsorily be used for certain specified purposes, such as resolutions, general orders, rules/notifications, press communiques, administrative and other reports, licences, permits, contracts, agreements etc.

Under provisions of Section 8 of the Act, Government has framed the Official Languages (use for official purposes of the Union) Rules 1976. Its salient features are (i) they apply to all the Central government offices including any office of a commission, committee or tribunal appointed by the Centre and corporation or company owned or controlled by it; (ii) communications from a Central government office to state/UT in Region A (Uttar Pradesh, Himachal Pradesh, Madhya Pradesh, Bihar, Rajasthan, Haryana, Andaman and Nicobar Islands and Delhi) shall be in Hindi; (iii) communications from a Central government's office to State/UT in Region

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B (Punjab, Gujarat, Maharashtra and Chandigarh) shall ordinarily be in Hindi. However, communications to any person in Region B may be either in English or Hindi; (iv) communications between Central government offices and from Central offices to the offices of the state governments/ union territories and individuals, *etc.*, will be in Hindi in such proportions as determined from time to time; (v) all manuals, codes and other procedural literature relating to Central government offices is required to be prepared both in Hindi and English, all forms, headings of registers, name plates, notice boards and various items of stationery, etc., is also required to be in Hindi and English; (vi) it shall be the responsibility of the officer signing documents specified in Section 3(3) of the Act to ensure that these are issued both in Hindi and English; (vii) It is necessary that all electronic equipment to be purchased in Central ministries/departments and their attached and subordinate offices, public undertakings and nationalised banks, etc., should have facility in both *Devanagari* as well as Roman script; (viii) all those employees should be imparted training in Hindi workshops who have attained working knowledge or proficiency in Hindi and who earlier have not been imparted training in such workshops; (ix) optional use of Hindi as alternative medium should be allowed and question papers be prepared in both languages (Hindi and English) in all in-service departmental and promotional examinations (including all India basis) of all ministries/departments and their attached and subordinate offices and corporations/undertakings, banks, etc., owned or controlled by the Centre. Where an interview is to be held, candidates are to be allowed the option to answer in Hindi; (x) optional use of Hindi as alternative medium in examinations conducted on regional or local basis for direct recruitment to services and posts in subordinate offices of Central government should be allowed in the manner specified; (xi) arrangments for teaching in training institutes of the Centre should be made in Hindi according to procedure laid down; (xii) proportion of typists in Central government offices trained through Hindi medium has been fixed and should be followed accordingly; (xiii) the proportion of stenographers/typists as well as *Devanagari* typewriters in Central government offices should be as follows: (a) 70 per cent in the headquarters of ministeries and departments located in Region 'A' (b) 80 per cent in rest of the offices located in Region 'A' (c) 55 per cent in all the offices located in Region 'B' (d) 21 per cent in all the offices located in Region 'C'. (xiv) employees who possess proficiency in Hindi in Regions 'A' and 'B' are to submit drafts of following communications in Hindi only (a) communications to states/UTs in Regions A and B and to all offices, undertakings, etc., of Central Government or any person in these regions, (b) replies to all communications received in Hindi (c) reply to any application, appeal or representation from any employee written or signed in Hindi and (d) they are also to do noting in Hindi on files for which orders have been given to put up draft of communications in Hindi only (xv) there should be an option to present research papers, etc., in Hindi, in seminars, discussions, conferences, etc., organised by the Central Govern-

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ment; (xvi) Fifty per cent of the total grant, earmarked for the purchase of books, should be utilised for the purchase of books published in Hindi; (xvii) it shall be the responsibility of the administrative head of each Central government office to ensure that provisions of the Act, rules and directions issued thereunder are properly complied and devise suitable and effective checkpoints for this purpose.

In order to assess the extent of propagation and promotion of progressive use of Hindi and also to suggest remedial measures for the deficiencies and difficulties experienced in this regard, the following committees have been set up:

(i) *Kendriya Hindi Samiti*; (ii) *Hindi Salahakar Samiti*; (iii) Central Official Language Implementation Committees; (iv) Town Official Language Implementation Committees and (v) Departmental Official Language Implementation Committees. They are performing their functions remarkably with the objective of effective implementation of Official Language Act/Rules and Orders in Central offices located far and wide in the country. Eight regional implementation offices—one each in Delhi, Bombay, Bangalore, Calcutta, Ghaziabad, Guwahati, Cochin and Bhopal, have been set up. These regional offices have their specific jurisdiction for implementation.

Rajbhasa Pushpamala (monthly) and *Rajbhasha Bharati* (quarterly) are the two important magazines of the Department of Official Language. The objective of these magazines is to make available useful information regarding the official language, Hindi to various Central offices.

Kendriya Hindi Prashikshan Sansthan a subordinate office of Department of Official Languages has been entrusted with the task of imparting full time in-service training in Hindi, Hindi typing and Hindi stenography to Central Government employees. Correspondence courses for teaching Hindi and Hindi typewriting have also been introduced. The Central Translation Bureau, another subordinate office of the Department, has been set up for translation of different types of non-statutory procedural literature comprising of manuals, codes, forms, etc., of various ministries, departments, organisations and offices of the Central Government. It also imparts full-term/short-term training in fundamental principles and techniques of translation to the sponsored officials of the Central Government.

COMPTROLLER AND AUDITOR-GENERAL

Comptroller and Auditor-General is appointed by the President. Procedure and grounds for his removal from office are the same as for a Supreme Court judge. He is not eligible for further office under the Union or a state government after he ceases to hold his office. His duties, powers and conditions of service have been specified by the Comptroller and Auditor-General's (Duties, Powers and Conditions of Service) Act, 1971. President on advice of Comptroller and Auditor-General prescribes the form in which accounts of the Union and states are to be kept. His reports on accounts of the Union and states are submitted to the President and respective Governors which are placed before parliament and State Legislatures.

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ADMINISTRATIVE REFORMS AND PUBLIC GRIEVANCES

Department of Administrative Reforms and Public Grievances is the nodal agency of the Government of India for administrative reforms, organisation and method. It is also responsible for the formulation of policy and coordination of measures concerning the redressal of public grievances relating to the state in general and grievances pertaining to Central Government agencies in particular. Its main items of work relate to conduct of management studies, identification of grievance-prone areas and suggesting remedial action, management services and publication of 'Civil Services News' (a monthly news bulletin) and 'Management in Government', (a quarterly journal).

MANAGEMENT STUDIES

The Department of Administrative Reforms and Public Grievances provides management consultancy service to various Central Government ministries/organisations. It studies specific problems of administration which are either referred to it by a government organisation or selected by it *suo-moto*. In the selection of studies emphasis is laid on areas which have a direct bearing on citizen satisfaction and involve a greater interaction between the administration and the members of the public. The management studies cover a wide range of issues relating to the organisational structure and methods as well as procedures prevailing in the ministries/departments and other organisations of the government.

Issues covered in some of the recent studies relate to functioning of the Directorate of Field Publicity; role and deployment of the Indian Defence Accounts Service; procedure to rectify excess/inflated telephone bills received by the subscribers; foot-path dwellers rehabilitation scheme; working of the Emergency Department of Dr Ram Manohar Lohia Hospital, New Delhi, billing system for water and electricity by the NDMC, schools-in-tents under Delhi Administration and Municipal Corporation of Delhi, working of the Accelerated Water Supply Programme in the states of Andhra Pradesh and Uttar Pradesh; educational qualifications prescribed for various Group 'B' and 'C' posts recruitment to which is done through the Staff Selection Commission and the procedure of administration and judicial side in the Supreme Court.

RESPONSIVE ADMINISTRATION

Department of Administrative Reforms and Public Grievances coordinates the efforts for implementation of point 20 of the Twenty-Point Programme relating to Responsive Administration by Central ministries/departments and state governments and union territory administrations. Under this programme, steps are taken for simplification of procedures, delegation of authority, enforcement of accountability and setting up and strengthening of machinery for redress of public grievances.

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SIMPLIFICATION OF FORMS AND PROCEDURES

In 1992 the Central ministries/departments were asked to set up Task Force for review and simplification of the existing forms and procedures. It has been emphasised that the efforts should be directed to make the procedures as simple and short as is consistent with enforcement of clear accountability. Where members of the public or non-government organisations are involved, the procedure and the forms used for examination of an issue should be, consistent with the needs of confidentiality, transparent and easily intelligible to all concerned. Most of the ministries/departments have already constituted the Task Force and they have started functioning on the above lines.

PUBLIC GRIEVANCES

The machinery for redressal of public grievances is functioning in all ministries/departments of the Central Government. Grievance redress units are also generally functioning in subordinate offices/public sector undertakings which have large public dealings. Efforts are made to further strengthen and vitalise them so as to make the machinery responsive to the public and ensure quick disposal of their grievances.

Wednesday is being observed as a meetingless day in the ministries/departments. Three hours (10 am to 1 pm) of this day are set apart for grievance redressal, when all officers of the level of Deputy Secretary and above remain available at their office for attending to grievances. All ministries/departments have also been advised to have their attached/subordinate and field offices declare one day of the week as a meetingless day.

In pursuance of the instructions issued by the Department of Administrative Reforms and Public Grievances ministries/departments have designated an officer as Director of Grievances. They have also taken measures to designate suitable officers as grievance officers in offices under their administrative control which have larger public dealings. The Director of Grievances is vested with powers to call for files/papers connected with a grievance pending for more than three months and to take decision with the approval of the Secretary of the ministry/department or the head of the organisation as the case may be. With a view to further strengthening the grievance redress machinery, ministries/departments have been advised to upgrade the level of the Director of Grievances from Deputy Secretary/Director to Joint Secretary.

An independent grievance redressal authority in the form of the Directorate of Public Grievances has been functioning in the Cabinet Secretariat with effect from 1 April 1988. The Directorate handles grievances relating to the Department of Railways, Posts, Telecommunications, Banking and Insurance Divisions of the Department of Economic Affairs, Ministries of Civil Aviation, Surface Transport and Urban Development.

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PUBLICATIONS

The Department brings out two publications:- *Management in Government* (quarterly) covering wide-range of topics including administrative reforms, public policy, human resource development and management of public sector enterprises, etc., and *Civil Services News* (monthly) which seeks to keep civil servants abreast of the latest developments in administration.

MOU BETWEEN INDIA AND CHINA ON CIVIL SERVICES

In terms of a Memorandum of Understanding signed between the Government of India and the People's Republic of China in February 1992, a three-member delegation of Indian officials visited China for ten days in September 1992 to study the local government system there. The delegation comprised officers from the Ministry of Urban Development, the Ministry of Rural Development and the Ministry of Personnel, Public Grievances and Pensions. An Indian expert went to China in October 1992 to deliver lectures on 'Administrative Structural Reform at Central and Local Government Levels' in a training programme organised by the Chinese Government. A six-member delegation of Chinese officers visited India during 1 to 20 December 1992 to study the public administration system and administrative reforms in India. A two-member Indian delegation visited China in February 1993 and finalised the Action Plan for 1993-94 under the MOU. The activities envisaged in the MOU with China include exchange of professional tours as well as exchange of experts in fields of personnel management and public administration. Cooperation between the two countries under the MOU is expected to lead to a better understanding of each other's administrative system which will be mutually beneficial.

THE STATES

The system of government in states closely resembles that of the Union.

EXECUTIVE

GOVERNOR

State executive consists of Governor and council of ministers with chief minister as its head. Governor of a state is appointed by the President for a term of five years and holds office during his pleasure. Only Indian citizens above 35 years of age are eligible for appointment to this office. Executive power of the state is vested in Governor.

Council of ministers with chief minister as head, aids and advises Governor in exercise of his functions except in so far as he is by or under the Constitution required to exercise his functions or any of them in his discretion. In respect of Nagaland, Governor has special responsibility under Article 371A of the Constitution with respect to law and order and even though it is necessary for him to consult council of ministers in matters relating to law and order, he can exercise his individual judgement as to the action to be taken.

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Similarly, in respect of Arunachal Pradesh, Governor has special responsibility under Article 371 H of the Constitution with respect to law and order and in discharge of his functions in relation thereto. Governor shall, after consulting council of ministers, exercise his individual judgment as to the action to be taken. These are, however, temporary provisions if President, on receipt of a report from Governor or otherwise is satisfied that it is no longer necessary for Governor to have special responsibility with respect to law and order, he may so direct by an order.

Likewise, in the Sixth Schedule which applies to tribal areas of Assam, Meghalaya, Tripura and Mizoram as specified in para 20 of that Schedule, discretionary powers are given to Governor in matters relating to sharing of royalties between district council and state government. Sixth Schedule vests additional discretionary powers in Governors of Mizoram and Tripura in almost all their functions (except approving regulations for levy of taxes and money lending by non-tribals by district councils) since December 1988. In Sikkim, Governor has been given special responsibility for peace and social and economic advancement of different sections of population.

All Governors while discharging such constitutional functions as appointment of chief minister of a state or sending a report to President about failure of Constitutional machinery in a state or in respect of matters relating to assent to a Bill passed by Legislature, exercise their own judgment.

COUNCIL OF MINISTERS

Chief Minister is appointed by Governor who also appoints other ministers on advice of chief minister. Council of ministers is collectively responsible to legislative assembly of the state.

LEGISLATURE

For every state, there is a legislature which consists of Governor and one House or, as the case may be, two Houses. In Bihar, Jammu and Kashmir, Karnataka, Maharashtra and Uttar Pradesh, there are two Houses known as legislative council and legislative assembly. In remaining states, there is only one House known as legislative assembly. Parliament may, by law, provide for abolition of an existing legislative council or for creation of one where it does not exist, if proposal is supported by a resolution of the legislative assembly concerned.

LEGISLATIVE COUNCIL

Legislative council (*vidhan parishad*) of a state comprises not more than one-third of total number of members in legislative assembly of the state and in no case less than 40 members[1]. About one-third of members of the council are elected by members of legislative assembly from amongst persons who are not its members, one-third by electorates consisting of mem-

1 Legislative Council of Jammu and Kashmir has 36 members vide Section 50 of the Constitution of Jammu and Kashmir.

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bers of municipalities, district boards and other local authorities in the state, one-twelfth by electorate consisting of persons who have been, for at least three years, engaged in teaching in educational institutions within the state not lower in standard than secondary schools and a further one-twelfth by registered graduates of more than three years standing. Remaining members are nominated by Governor from among those who have distinguished themselves in literature, science, art, cooperative movement and social service. Legislative councils are not subject to dissolution but one-third of their members retire every second year.

LEGISLATIVE ASSEMBLY

Legislative assembly (*Vidhan Sabha*) of a state consists of not more than 500 and not less than 60 members[2] chosen by direct election from territorial constituencies in the state. Demarcation of territorial constituencies is to be done in such a manner that the ratio between population of each constituency and number of seats allotted to it, as far as practicable, is the same throughout the state. Term of an assembly is five years unless it is dissolved earlier.

POWERS AND FUNCTIONS

State legislature has exclusive powers over subjects enumerated in List II of the Seventh Schedule of the Constitution and concurrent powers over those enumerated in List III. Financial powers of legislature include authorisation of all expenditure, taxation and borrowing by the state government. Legislative assembly alone has power to originate money bills. Legislative council can make only recommendations in respect of changes it considers necessary within a period of fourteen days of the receipt of money bill from assembly. Assembly can accept or reject these recommendations.

RESERVATION OF BILLS

Governor of a state may reserve any Bill for consideration of President. Bills relating to subject like compulsory acquisition of property, measures affecting powers and position of High Courts and imposition of taxes on storage, distribution and sale of water or electricity in inter-state river or river valley development projects should necessarily be so reserved. No Bill seeking to impose restrictions on inter-state trade can be introduced in a state legislature without previous sanction of President.

CONTROL OVER EXECUTIVE

State legislatures, apart from exercising usual power of financial control, use all normal parliamentary devices like questions, discussions, debates, adjournments and no-confidence motions and resolutions to keep a watch

2 Legislative Assembly of Sikkim has 32 members, vide Articles 371 F of the Constitution.

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over day-to-day work of the executive. They also have their committees on estimates and public accounts to ensure that grants sanctioned by legislatures are properly utilised.

MULTI-LEVEL PLANNING

Apex planning body at state level is generally state planning board comprising chief minister as chairman and finance and planning ministers of the state and some technical experts as members. Departments of Planning in state government provides secretariat for the board. In many states, planning process has been decentralised to district level and in some states even to sub-division or block levels. In most of the states, there is district planning committee or district planning council comprising both official and non-official members. Some states also have a separate set-up consisting of functionaries like district planning officers, economist, credit planner, project appraiser, export training coordinator and an area planner in some of the districts for formulation of district plans, which are integrated with state plan.

UNION TERRITORIES

Union territories are administered by President acting to such extent as he thinks fit, through an Administrator appointed by him. Administrators of Andaman and Nicobar Islands, Delhi and Pondicherry are designated as Lt Governors while Administrator of Chandigarh is designated as Chief Commissioner. However, presently the Governor of Punjab is concurrently the Administrator of Chandigarh. The Administrator of Dadra and Nagar Haveli is concurrently the Administrator of Daman and Diu. Lakshadweep has a separate Administrator.

Pondicherry has Legislative Assembly and council of ministers. The Constitution (Sixty-ninth Amendment) Act, 1991 and the Government of National Capital Territory of Delhi Act, 1991 have been enacted to provide for a Legislative Assembly and a council of ministers for Delhi. Andaman and Nicobar Islands, Dadra and Nagar Haveli, Lakshadweep and Daman and Diu have a Pradesh Council each.

Legislative assembly of a union territory may make laws with respect to matters enumerated in List II or List III in the Seventh Schedule in so far as they are applicable in relation to union territories. However, some Bills require prior approval of Central Government for introduction in Legislative Assembly. Some Bills, passed in Legislative Assembly are required to be reserved by Administrator for consideration of President. Pradesh Councils in Andaman and Nicobar Islands, Dadra and Nagar Haveli and Lakshadweep and Daman and Diu have the right to discuss and make recommendations about matters in so far as they relate to their respective territories. States and union territories except those in north-eastern region, Andaman and Nicobar Islands and Lakshadweep are grouped into five zones. Each

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zone has a high level advisory body known as zonal council which provides forum for discussing matters of common interest to the constituent units. Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan and union territories of Chandigarh and Delhi are in northern zone. Central zone comprises Madhya Pradesh and Utter Pradesh. Bihar, Orissa, Sikkim, and West Bengal are in eastern zone. Gujarat, Maharashtra and Goa and union territories of Daman and Diu and Dadra and Nagar Haveli are in western zone. Southern zone comprises Andhra Pradesh, Karnataka, Kerala and Tamil Nadu and Union Territory of Pondicherry.

LOCAL GOVERNMENT

MUNICIPAL CORPORATION

In most of the states, municipal corporations have been established for major cities under specific Acts of the municipal legislature. Administration of the city vests in an elected council and the powers of the corporation are exercised by three authorities, namely; (i) general council, (ii) standing committees and (iii) municipal commissioner. Standing committees are elected by the council and carry out most of the work of administration including taxation, finance and preparation of budget, engineering, health and education services. The general council appoints most of the officers of the corporation but the municipal commissioner is appointed by the government. The functions of the municipal corporation include public safety, health, education, other conveniences as well as construction and maintenance of water works and sewage, roads, streets, bridges, parks, recreation grounds, markets, shopping centres, etc. Major corporations also undertake works of housing and land development. There are 73 municipal corporations in the country. The Calcutta Corporation Act has been recently amended to provide for the system of Mayor-in-Council.

MUNICIPAL COMMITTEE AND COUNCIL

For all other towns and cities, there are municipalities having elected boards or councils which in turn elect their own presidents. All members of a municipality constitute general body which decides all questions of policy and important details of municipal administration. Municipal council, however, functions through committees which exercise delegated powers or make recommendations to the council. Day-to-day work of the municipality is carried on by an executive officer drawn sometimes from the state civil service or a statewise cadre of municipal officers. In many states, municipal councils continue to appoint their own executive officers and other officials.

CONSTITUTIONAL STATUS OF URBAN LOCAL GOVERNMENTS

Constitution of India recognises statutory identity of the local body both for rural and urban. Article 12 of the Constitution dealing with the fundamental rights, includes local authorities in the definition of Governments. The subject of local authorities also finds a mention in the Directive Principles of

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State Policy in the Constitution under which the state in India is directed to promote self-government at the local levels. The municipal bodies, who derive their powers from the State under specific statutes and notifications have no inherent constitutional rights or functional and financial jurisdiction of their own. In the absence of specific provisions for urban local bodies in the Constitution, these bodies have always been subject of premature supersession by the state government or its specialised agencies. After the local bodies are superseded, re-elections are not held for many years, thereby eroding the basic concept of democracy at the grass root level.

ELECTION COMMISSION

Superintendence, direction and control of preparation of electoral rolls for, and conducting elections to parliament and state legislatures and to offices of President and Vice-President are vested in Election Commission and constitutional authority set up in pursuance of Article 324 (1) of the Constitution. Though clause (2) of Article 324 provides that Election Commission shall consist of Chief Election Commissioner and such number of other Election Commissioners, if any, as President may from time to time appoint, the Commission has since its inception consisted only of Chief Election Commissioner. However, on 7 October 1989, President fixed the number of Election Commissioners (other than Chief Election Commissioner) at two until further orders. Thereafter, S.S. Dhanoa and V.S. Seigell were appointed Election Commissioners on 16 October 1989. On 1 January 1990, President rescinded his earlier notification and order fixing the number of Election Commissioners thereby making Election Commission single member body as before. Independence of Election Commission is protected by a specific provision under Article 324 (5) of the Constitution to the effect that Chief Election Commissioner shall not be removed from his office except in like manner and on liked grounds as a judge of Supreme Court and conditions of his service shall not be varied to his disadvantage after his appointment.

The Chief Election Commissioner of India's (Conditions of Service Rules) 1972, were further amended with retrospective effect from 1 January 1986. The Chief Election Commissioner of India, will now be entitled to the salary and other facilities, like rent free accommodation, equivalent to that of a judge of the Supreme Court. The term of his office has also been extended upto six years, from the date he assumes office or till the day he attains the age of 65 years whichever is earlier.

Plenary powers vested in Election Commission under Article 324 of the Constitution are supplemented further by Acts of Parliament, namely, Representation of the People Act, 1950 and 1951, Presidential and Vice-Presidential Elections Act, 1952, Government of Union Territories Act, 1963, Delhi Administration Act, 1966 and the Rules and Orders made thereunder.

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RESERVATION OF SEATS

The Constitution (Fifty-Seventh Amendment) Act, 1987 provides for determination of seats reserved for scheduled tribes in Arunachal Pradesh, Meghalaya, Mizoram and Nagaland by amending Article 332 of the Constitution. Under the Representation of the People (Amendment) Act, 1987, 59 out of 60 seats in Arunachal Pradesh, 55 out of 60 in Meghalaya, 30 out of 40 in Mizoram and 59 out of 60 in Nagaland were reserved for scheduled tribes. Election Commission has identified 55 reserved seats in Meghalaya, 59 in Nagaland, 59 in Arunachal Pradesh and 39 in Mizoram.

ELECTORAL ROLLS

Parliamentary system of government both at Centre and in states is based on adult suffrage, whereby all citizens who are not less than 18 years of age and are not disqualified under the Constitution or any law made by appropriate legislature on certain grounds like non-residence, unsoundness of mind, crime, illegal or corrupt practices, have the right to be registered as voters in any election to the Lok Sabha and legislative assemblies of states.

REGISTRATION OF POLITICAL PARTIES

A new part (Part IV A) has been added to the Representation of the People (Amendment) Act, 1951 on registration of political parties. Section 29 A now inserted provides for registration with the Commission, of associations and bodies of individual citizens of India as political parties for purposes of this Act. Every application for registration is required to be made (a) if the association or body is in existence at commencement of the Representation of the People (Amendment) Act, 1988 within sixty days following such commencement and (b) if the association or body is formed after such commencement, within thirty days following its formation.

This provision came into force from 15 June 1989. A recognised political party has been classified either as a national party or a state party under paragraph 7 of the Election Symbols (Reservation and Allotment) Order, 1968. If a political party is recognised in four or more states, it is deemed to be a 'national party' and a political party recognised in less than four states, is a 'state party' in state or states in which it is recognised as such. National and state parties along with symbols are shown in tables 3.3 and 3.4 respectively.

ELECTOROL REFORMS

LOWERING OF VOTING AGE

The Constitution (Sixty-first Amendment) Act, 1988 amends Article 326 by substituting the words 'eighteen years' for 'twenty one years'. This came into force on 28 March 1989. Consequent to this, amendments were also made in the Representation of the People Act, 1950 and the Representation of the People Act, 1951.

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TABLE 3.3 NATIONAL PARTIES

	National Party	Symbol Reserved
1.	Bharatiya Janatha Party	Lotus
2.	Communist Party of India	Ears of Corn and Sickle
3.	Communist Party of India (Marxist)	Hammer, Sickle and Star
4.	Indian Congress (Socialist) (Dispute pending before Commission)	*Charkha*
4A.	Indian Congress (Socialist-Sarat Chandra Sinha)	*Charkha* within a rectangle
5.	Indian National Congress	Hand
6.	Janta Dal(A)[1]	Inkpot and Pen
6A.	Janta Dal(B)[1]	Cup and Saucer
7.	Janata Party (Dispute pending before Commission)	Haldher with wheel (*Chakra Haldher*)
8.	Lok Dal	Farmer ploughing the field.
8A.	Janata Dal (Samajwadi)	Farmer driving Bullock Cart A woman carrying pot on her head, (List as by P.I.B. Reference handbook on General Election-1991).

1 Ad-hoc and interim arrangement

TABLE 3.4 STATE PARTIES

State/Union Territory	State Party	Symbol Reserved
Andhra Pradesh	Telugu Desam	Bicyle
Arunachal Pradesh	People's Party of Arunachal	*Mithun*
Assam	1. Asom Gana Parishad	Elephant
	2. Plains Tribals Council of Assam	Cultivator cutting Crop
	3. United Minorities Front Assam (Dispute pending before commission)	Ladder
Bihar	Jharkhand Mukti Morcha	Bow and Arrow
Goa	Maharashtrawad Gomantak Party	Lion
Jammu and Kashmir	1. National Conference	Plough
	2. Jammu and Kashmir Panthers Party	Bicycle
	3. Jammu and Kashmir Peoples Conference	Lion
Kerala	1. Kerala Congress	Horse
	2. Kerala Congress (M)	Two Leaves
	3. Muslim League	Ladder
	4. Revolutionary Socialist Party	Spade and Stoker

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Maharashtra	1. Peasants and Workers Party of India	Cart
	2. Shiv Sena	Bow and Arrow
Manipur	1. Kuki National Assembly	Two Leaves
	2. Manipur People's Party	Bicycle
Meghalaya	1. All Party Hill Leaders Conference (Armison Maak Group)	Two Leaves
	2. Hill People Union	Rising Sun
	3. Hill State Peoples Democratic Party	Lion
	4. Public Demands Implementation Convention	Spade
Mizoram	1. Mizo National Front	Tiger
	2. Democratic Party	Rising Sun
Nagaland	1. Nagaland People's Council	Cock
	2. Nagaland Peoples Party	Elephant
Punjab	1. Shiromani Akali Dal	Scales
	2. Shiromani Akali Dal (Badal) (interim recognition)	Bow and Arrow
	3. Bahujan Samaj Party	Elephant
	4. Shiromani Akali Dal (Simranjit Singh Mann)	Lion
Sikkim	1. Rising Sun Party	Rising Sun
	2. Sikkim Sangram Parishad	Elephant
Tamil Nadu	1. All India Anna Dravida Munnetra Kazhagam	Two Leaves
	2. Dravida Munnetra Kazhagam	Rising Sun
	3. Pattali Makkal Katchi	Elephant
Tripura	1. Revolutionary Socialist Party	Spade and Stoker
	2. Tripura Upajati Juba Samity	Two Leaves
Uttar Pradesh	Bahujan Samaj Party	Elephant
West Bengal	1. All India Forward Block	Lion
	2. Revolutionary Socialist Party	Spade and Stoker
Pondicherry	1. All India Anna Dravida Munnetra Kazhagam	Two Leaves
	2. Dravida Munnetra Kazhagam	Rising Sun
	3. Pondicherry Maanila Makkal Munnani	Scales
	4. Pattli Makkal Katchi	Elephant

DEPUTATION TO ELECTION COMMISSION

Under the Representation of the People (Amendment) Act, 1988, a new Section 13 CC was inserted which provides that officers or staff engaged in preparation, revision and correction of electoral rolls for elections shall be deemed to be on deputation to Election Commission for the period of such employment and such personnel shall during that period, be subject to control, superintendence and discipline of Election Commission. Similar provision has been made in the Representation of the People Act, 1951.

INCREASE IN NUMBER OF PROPOSERS

Number of electors who are required to sign as proposers in nomination paper for elections to Council of States and State Legislative Council has

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been increased to ten per cent of the electors of the constituency or ten such electors, whichever is less, to prevent frivolous candidates.

ELECTRONIC VOTING MACHINES

The Representation of the People Act, 1951, was amended to facilitate use of electronic voting machines in elections.

BOOTH CAPTURING

Section 58 A has been inserted in the Representation of the People Act, 1951 by Act 1 of 1989 providing for adjournment of poll or countermanding of elections because of booth capturing. Booth capturing has been defined in Section 135 A of the Representation of the People Act, 1951. Booths capturing includes among other things: (a) seizure of a polling station or a place fixed for poll by any person or persons making polling authorities surrender ballot papers or voting machines and doing of any other act which affects orderly conduct of elections; (b) taking possession of polling station or a place fixed for poll by any person or persons and allowing only his or their own supporters to exercise their franchise and preventing others from voting; (c) threatening any elector and preventing him from going to polling station or a place fixed for poll to cast his vote; (d) seizure of a place for counting of votes by any person or persons, making counting authorities surrender ballot papers or voting machines and doing of anything which affects orderly counting of votes, and (e) doing by any person in the service of government, of all or any of aforesaid activities of aiding or conniving at any such activity in furtherance of election prospects of a candidate.

If because of booth capturing result of poll/result of counting cannot be ascertained returning officer will report the matter forthwith to Election Commission. Election Commission on such report may either declare the poll at the particular polling station as void and appoint a date for fresh poll or countermand election in that constituency.

Section 135A provides penalty for booth capturing which shall be imprisonment for a term not less than six months which can extend to two years along with fine. Where such offence is committed by a person in the service of Government, he shall be punishable with imprisonment for a term of not less than one year which may extend to three years along with fine. As a follow-up of an all party conference convened by Prime Minister on 9 January 1990, an electoral reforms committee has been constituted under the chairmanship of Minister of Law and Justice. The Representation of the People (Amendment) Bill was introduced in May 1990 on the basis of the report submitted by this committee.

ORDINANCE ON POLL PROCESS

In the wake of an increasing number of independent candidates becoming targets of violence calculated to countermand elections, the Government

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has issued an Ordinance in January 1992 to amend the Representation of the People Act (RPA), 1951 so that elections are not countermanded in the event of the death of an independent candidate.

GENERAL ELECTIONS

First general election in India on the basis of adult suffrage was held in 1951-52. This was a simultaneous election both for the Lok Sabha and all state legislative assemblies (including Part A, B and C states). Second general election held in 1957, shortly after reorganisation of states was also a simultaneous election. In third general election in 1962, elections to state assemblies of Kerala and Orissa became out of step with general election with the result that simultaneous elections could not be held in these two states. Similarly in 1967, simultaneous elections could not be held in Nagaland and Pondicherry along with fourth general election to the Lok Sabha. After 1967, election to most of the assemblies had to be held earlier than normally due with the result that Orissa, Tamil Nadu and West Bengal had simultaneous elections to the Lok Sabha and state assemblies at fifth general election held in 1971. In 1977, Kerala was the only state where election to legislative assembly was held simultaneously with sixth general election. When seventh general election was held in January 1980, elections to constitute new assemblies were held simultaneously only in Manipur, Arunanchal Pradesh, Goa, Daman and Diu and Pondicherry. Polling for Eighth Lok Sabha election was held on 24, 27 and 28 December 1984 in 20 states and nine union territories except Assam and Punjab. Election for assemblies of Tamil Nadu, Manipur, Arunachal Pradesh and Goa, Daman and Diu were also held simultaneously.

In Assam, the Commission in fulfilment of an assurance given to Supreme Court, initiated action to undertake intensive revision of electoral rolls of all assembly constituencies which could not be completed before commencement of the process of general election in rest of the country.

On the basis of report received from Punjab government and also Chief Electoral Officer regarding prevailing law and order situation, the Commission was satisfied that election in Punjab could not be held along with rest of the country. For this the Representation of the People Act,1951 was amended and a new section 73 A was inserted by an Ordinance issued on 20 November 1984. The Ordinance was replaced by an Act of Parliament. Except Jammu and Kashmir, Madhya Pradesh, Maharashtra and Uttar Pradesh, all other states and union territories had one day poll.

In March 1985, elections were held in 11 states and one union territory. Of these, election in Bihar, Gujarat, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Uttar Pradesh was held as the five-year term of assemblies of these states was due to expire in June/July 1985. Election to constitute new assemblies of Andhra Pradesh, Karnataka and Himachal Pradesh were necessitated due to their premature dissolution on 22 November 1984, 2 January 1985 and 21 January 1985, respectively.

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Sikkim and Union Terriroty of Pondicherry were under President's Rule from 25 May 1984 and 21 June 1983. The Commission was informed that President's Rule would be revoked shortly. Except for Bihar, Maharashtra and Uttar Pradesh, where there was a two-day poll on 2 and 5 March 1985, election was held on a single day on 5 March 1985 in rest of the eight states and one union territory.

Election to constitute assembly of Punjab was held in September 1985 and that of Assam in December 1985. Simulataneous elections were also held to fill vacant seats in the Lok Sabha from these states. Consequent upon enactment of the State of Mizoram Act, 1986, a new state of Mizoram comprising territories which immediately before that date comprised Union Territory of Mizoram, came into existence. The new state was redelimited into 40 assembly constituencies. There was, however, no change in allocation of seats to the Rajya Sabha and the Lok Sabha from Mizoram. Poll to constitute a new assembly was held on 16 February 1987 and it was duly constituted on 20 February 1987.

Poll to constitute assemblies of Kerala and West Bengal, whose terms were due to expire on 24 June 1987 and 14 June 1987, respectively, was held on 23 March 1987. Poll to constitute new assembly of Jammu and Kashmir, which was dissolved on 7 September 1986, was also held on the same date. The term of Haryana assembly was to expire on 24 June 1987 and poll was held on 17 June 1987.

Erstwhile Union Territory of Arunanchal Pradesh was granted statehood from 20 February 1987. Goa was made a full-fledged state from 30 May 1987 and Daman and Diu was retained as union territory. Goa was given a seat in the Rajya Sabha and allowed to retain both of its seats in the Lok Sabha. Daman and Diu was given a seat in the Lok Sabha.

The term of Nagaland assembly was to expire on 28 November 1987. Accordingly, a general election for assembly was held on 18 November 1987. Similarly, general elections to constitute new assemblies for Meghalaya and Tripura were held on 2 February 1988. Perhaps for the first time in the history of Indian elections, there was a tie of votes between two candidates in electoral battle at Marak constituency and the winner had to he decided by a draw of lots under section 25 of the Representation of the People Act, 1951.

President's Rule imposed in Punjab on 11 May 1987 was extended beyond the six-month period. Assembly was subsequently dissolved on 6 March 1988. President's Rule was also imposed in Tamil Nadu on 30 January 1988 due to political instability after the death of the Chief Minister on 24 December 1987.

President's Rule was imposed in Nagaland on 7 August 1988. Assembly was dissolved on the same date. Poll to constitute new assembly was held on 21 January 1989 and it was duly constituted on 25 January 1989.

Mizoram assembly was dissolved by Presidential Proclamation on 7 September 1988. Poll was held on 21 January 1989 and new asembly constituted on 24 January 1989.

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Tamil Nadu was put under President's Rule on 30 January 1988. Poll was held on 21 January 1989 and new assembly constituted on 27 January 1989. President's Rule was imposed in Karnataka on 21 April 1989. This was the third time Karnataka was brought under Presient's Rule which earlier was imposed in 1971 and 1977. A new assembly has been duly constituted there.

The term of eighth Lok Sabha was upto 14 January 1990. General election was held on 22, 24 and 26 November 1989 to the ninth Lok Sabha except Assam where revision of rolls was not completed by that time.

Simulataneous election was also held to constitute new assemblies in Andhra Pradesh, Goa, Karnataka, Sikkim and Uttar Pradesh. Ninth Lok Sabha was duly constituted on 2 December 1989, and the House met for the first meeting on 18 December 1989. The term of eighth Lok Sabha came to an end on 17 December 1989.

Poll to constitute state assemblies in Himachal Pradesh, Rajasthan, Bihar, Arunachal Pradesh, Orissa, Madhya Pradesh, Maharashtra and Gujarat and in Union Territory of Pondicherry was held on 27 February 1990. New assemblies there were constituted.

The ninth Lok Sabha did not serve its full term. The House was dissolved on 12 March 1991. Elections to the 511 seats of tenth Lok Sabha, except six seats in Jammu and Kashmir and 13 seats in Punjab, were held on 20 May, 6 June, 8 June, 12 June and 15 June 1991. Elections were also held to the state assemblies of Assam, West Bengal, Uttar Pradesh, Haryana, Kerala, Tamil Nadu and Pondicherry. Bye-election to 15 Lok Sabha seats and 56 assembly seats in 14 states was held on 16 November 1991.

Elections to the Lok Sabha and assembly seats in Punjab was held on 9 February 1992. Bye-election to two Lok Sabha seats and 19 assembly seats were held on 8 June 1992.

PRESIDENTIAL AND VICE PRESIDENTIAL ELECTIONS

Dr. Shanker Dayal Sharma was elected ninth President in the election held on 13 July 1992. He assumed office on 25 July 1992. Shri K.R. Narayanan was elected Vice President in the election held on 19 August 1992.

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4 Defence

INDIA's defence policy aims at promoting and sustaining durable peace in the sub-continent and equipping the defence forces adequately to safeguard against aggression.

The Supreme Command of the armed forces is vested in the President of India. The responsibility for national defence, however, rests with the Cabinet. The Defence Minister is responsible to Parliament for all matters concerning defence. Administrative and operational control of the armed forces is exercised by the Ministry of Defence and the three services headquarters.

ORGANISATION

The three services function under their respective Chiefs of Staff. As on 1 November 1993 the Chiefs of Staff are:-

Chief of the Army Staff	:	General BC Joshi
Chief of the Naval Staff	:	Admiral VS Shekhawat
Chief of the Air Staff	:	Air Chief Marshal SK Kaul

ARMY

At the Army Headquarters in New Delhi, the Chief of the Army Staff is assisted by the Vice-Chief of the Army Staff and seven other Principal Staff Officers, namely, the two Deputy Chiefs of the Army Staff, Adjutant General, Quarter-master General, Master General of Ordnance, Military Secretary and Engineer-in-Chief.

The Army is organised into six commands, *viz.*, Southern, Eastern, Western, Central, Northern and Training. Each command is under a General Officer Commanding-in-Chief who holds the rank of Lieutenant General. A General Officer Commanding-in-Chief is the commander of demarcated geographical area and has both field and static formations under his command. The major field formations are Corps, Division and Brigade commanded by a General Officer Commanding of the rank of Lieutenant General, a General Officer Commanding of the rank of Major General and Brigadier, respectively. The major static formations are Areas, Independent Sub-Areas and Sub-Areas. An Area is commanded by a General Officer Commanding of the rank of Major General and an independent Sub-Area and Sub-Area by a Brigadier.

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The Army consists of a number of arms and services. These are: Armoured Corps, Regiment of Artillery, Corps of Engineers, Corps of Signals, Mechanised Infantry, Infantry, Army Service Corps, Military Nursing Service, Army Medical Corps, Army Dental Corps, Army Ordnance Corps, Corps of Electrical and Mechanical Engineers, Remount and Veterinary Corps, Military Farms Service, Army Education Corps, Intelligence Corps, Corps of Military Police, Judge Advocate General Department, Army Physical Training Corps, Pioneer Corps, Army Postal Service Crops and Defence Security Corps. In addition, the Army has its own Recruiting Organisation, Record Offices, Depots, Boys Establishments and Selection Centres and training institutions.

NAVY

The Navy is responsible for defence and security of India's maritime interests and assets, both in times of war and peace. The Chief of the Naval Staff at the Naval Headquarters, New Delhi, is assisted by four Principal Staff Officers, namely, the Vice Chief of Naval Staff, Chief of Personnel, Chief of Material and Deputy Chief of Naval Staff.

The Navy has three commands *i.e.*, Western, Eastern and Southern with their headquarters located at Bombay, Vishakhapatnam and Cochin, respectively. Each command is headed by a Flag Officer Commanding-in-Chief in the rank of Vice Admiral. Western Command and Eastern Command have under them operational fleets *i.e.*, Western and Eastern Fleets comprising warships, submarines, aircraft and other support ships. Southern Naval Command is responsible for all training activities of the Indian Navy.

The Indian Navy is a well balanced three dimensional force consisting of sophisticated missile capable warships, two aircraft carriers, minesweepers, advanced submarines and the latest aircraft in its inventory. Many of the warships are of indigenous design and have been constructed in Indian shipyards. These ships compare well with the ships of similar capability constructed by the advanced countries. The Naval forces are maintained and supported by modern dockyard facilities encompassing state-of-the-art technology. At present, it has two major Naval bases at Bombay and Vishakhapatnam.

COAST GUARD

The Coast Guard was constituted as an armed force of the Union in 1978 under the Coast Guard Act to protect the maritime and other national interests in the maritime zones of India, covering an area of approximately 28 lakh sq km. The force, which is headed by Director General Coast Guard, is functioning under the effective control of the Ministry of Defence.

The headquarters of the force is presently located in New Delhi and regional headquarters are at Bombay, Madras and Port Blair. The three regions namely Western, Eastern and Andaman and Nicobar cover ten

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districts, one in each of the eight coastal states in the mainland and two in Andaman and Nicobar Islands. At present, the Coast Guard district headquarters are functioning at Vadinar, Okha and Porbandar in Gujarat, Cochin in Kerala, Mandapam and Tuticorin in Tamil Nadu, Vishakhapatnam in Andhra Pradesh, Haldia in West Bengal, New Mangalore in Karnataka, Paradeep in Orissa, Diglipur and Campbell Bay in Andaman and Nicobar Islands. Coast Guard air enclaves are functioning at Goa and Calcutta. Coast Guard air station squadrons are operational at Daman and Madras. Establishment of DHQ at Goa and stations at Kavaratti and Kamorta are being planned.

The force has effectively served national interests in high-risk areas. Special trawlers fishing illegally have been apprehended. Coast Guard ships and aircraft have been regularly assisting the customs authorities in anti-smuggling operations. In 1990 and 1991 contraband worth Rs 5,486.29 lakh and Rs 6,393 lakh respectively was confiscated while in 1992, Rs 2,184.27 lakh worth contraband was confiscated. Besides, the force is available for search and rescue operations, anti-pollution and other duties in the maritime zones of the country. The recent oil spill situations of Nicobar Islands and Bombay were efficiently handled by the Coast Guard.

AIR FORCE

The Air Force is organised both on functional as well as geographical basis. There are five operational commands. These are : Western Air Command, South-Western Air Command, Central Air Command, Eastern Air Command and Southern Air Command. In addition, Maintenance Command and Training Command are two functional commands.

At the Air headquarters in New Delhi, the Chief of the Air Staff is assisted by the Vice-Chief of Air Staff, Deputy Chief of Air Staff, Air Officer Incharge Administration, Air Officer Incharge Maintenance, Air Officer Incharge Personnel and Inspector General Flight Safety and Inspection. These six Principal Staff Officers are assisted by Assistant Chiefs of Air Staff.

Today, the Air Force consists of an array of modern aircraft. Its fleet consists of fighter bombers, air superiority fighters, interceptors, transport and logistic aircraft and helicopters. The fighter force comprises *Hunters* and *Ajeets* which are older generation aircraft and *MIC-21* variants, *MiG-23s, MiG-25s, MiG-27s* and *Jaguar* which represent the modern generation strike aircraft. *MiG-29s* and *Mirage-2000* provide the Air Force with a present generation air defence aircraft. The ageing light bomber, *Canberra* is presently used in ancillary roles. The transport fleet consists of *IL-76s, AN-32s, Boeing-737* and indigenously produced *HS-748*. *Dornier-228* has replaced the *Otter* aircraft and is manufactured under licence by the HAL. The helicopter fleet has been modernised through acquisition of *MI-8s, MI-17s* and *MI-26s*. In addition, the force has been supplemented with *MI-25s* and *MI-35s* which are used as attack helicopters. *MI-25* helicopter has done yeoman service for the IPKF in Sri Lanka. *Chetak/Cheetah* helicopters are manufactured by HAL for the Air Force. They are used as airborne

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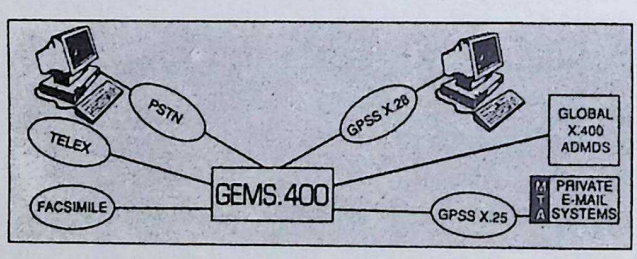

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PRESSMAN

WELL CONNECTED TO THE WORLD

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Forward Air Controller (FAC), Anti-Tank Guided Missile (ATGM) carrier and for search and rescue operations.

HPT-32 manufactured by HAL is used as the basic trainer aircraft. *HJT-16 (Kiran)* and Polish *Iskara* aircrafts are used as trainers in the applied stage of training. *HS-748* is used as transport aircraft trainer. The Air Force *MI-8* Helicopters are specially modified to undertake tasks in Antarctica. *MI-17* and *Chetak* are used for high-altitude operations. They provide logistics support to ground forces.

COMMISSIONED RANKS

Following are the commissioned ranks in the three services; each rank is shown opposite to its equivalent in the other services:

Army	Navy	Air Force
General	Admiral	Air Chief Marshal
Lieutenant General	Vice Admiral	Air Marshal
Major General	Rear Admiral	Air Vice Marshal
Brigadier	Commodore	Air Commodore
Colonel	Captain	Group Captain
Lieutenant Colonel	Commander	Wing Commander
Major	Lieutenant Commander	Squadron Leader
Captain	Lieutenant	Flight Lieutenant
Lieutenant	Sub-Lieutenant	Flying Officer
Second Lieutenant	Acting Sub-Lieutenant	Pilot Officer

RECRUITMENT

Due to changes effected in the recruitment system during 1989-90, there has been an improvement in the quality of intake during 1992-93. This would help the Army to meet the growing challenges of modernisation, development of skills, technology upgradation and in the ultimate analysis, in the making of a more competent and confident combat soldier. All citizens of India are eligible for recruitment to Armed Forces provided they meet the prescribed physical, medical and educational standards.

ARMY

Recruitment to the Army is carried out through 12 zonal recruiting offices, 70 branch recruiting offices and 46 regimental/corps training centres, spread all over the country. Application system of recruitment continues to form the basis for recruitment in the Army. To adequately reach out to the candidates of rural and remote areas and to broaden the base of recruitment, recruitment *Melas* at the scale of one to two per recruitment zone per year are being held since January 1992. To enable quick disposal of large number of applications received by zonal recruiting offices, automation has been resorted to as a pilot project at the Recruiting Office, Delhi Cantonment. Six more zonal recruiting offices are being equipped with computers for automation in the near future.

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With matriculation being made the basic educational qualification for most categories (except soldier tradesmen), administration of a common entrance examination was introduced with effect from October 1989. A combined paper is given to soldier GD category, soldier clerk/SKT and soldier technical trades aspirants. Half yearly examination for recruitment of graduates directly as havaldar are being conducted. In addition, recruitment of religious teachers and junior commissioned officers catering has been started. The selection for all above three categories is carried out on an all India merit basis. The merit lists of successful candidates are being displayed at zonal recruiting offices/branch recruiting offices.

Allocation Based on Capacities (ABC) system has been introduced according to which the recruitment is carried out on six bi-monthly enrolment schedule to coincide with the training schedule of Regimental/Corps Training Centres, thus reducing the waiting period to the minimum.

INDUCTION OF WOMEN IN ARMED FORCES

In January 1992, the Government approved the induction of women in the following branches: (i) Army Postal Service; (ii) Judge Advocates General Department; (iii) Army Education Corps; (iv) Army Ordnance Corps (Central Ammunition Depots and Materials Management) and (v) Army Service Corps (Food Scientists Catering Officers).

Government has recently approved the induction of women in additional branches of the Army *viz.* Corps of Signals, Intelligence Corps, Corps of Engineers, Corps of Electrical and Mechanical Engineering and Regiment of Artillery.

Government had earlier approved induction of women in selected branches of the Air Force and Navy also. In pursuance of these decisions the selection process has commenced and 22 women cadets have already completed their training at INS Maudri and have joined the Navy as officers. In the Air Force 12 women cadets have completed their training at Air Force Academy, Hyderabad and in the Army 25 women cadets who were undergoing training at the Officers Training Academy (OTA) Madras, since September 1992 have now passed out.

NAVY

Recruitment of sailors in the Navy and other ranks to the Army is carried out through a network of 71 recruiting offices covering the entire country. The application system has been introduced from 1988 with a view to ensuring fair screening and eliminating touts and agents. According to this system, candidates are not required to personally visit recruiting offices, they can send their applications through post to the Zonal Recruiting Office concerned. Screening of applications and issue of call letters is done by the Zonal Recruiting Officer after considering the educational qualifications, additional qualifications (driving, typing etc.) and achievements in NCC, games etc. The screening of candidates who are issued call letters, is carried out through a written examination, aptitude tests and medical tests

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etc. The entire recruitment process is carried out by a team and completed on a fixed time schedule.

AIR FORCE

Recruitment of Airmen to Indian Air Force is done through the Central Airmen Selection Board located at the Air Force Station, New Delhi. There are 13 selection centres under this Board and they make necessary arrangements in the conduct of selection tests and final enrolment. After calling the applications through advertisements in national/regional dailies and through mass media, a written test on an all India basis is held and the all India merit list is drawn up with the help of computers.

COMMISSIONED OFFICERS

Selection for Commissioned officers in the Armed Forces is done on an all India basis through a written examination conducted by the Union Public Service Commission. In addition, selection of technical graduates for entry into certain technical corps/branches of Army is done through Army Headquarters and Services Selection Boards (SSBs).

TRAINING INSTITUTIONS

NATIONAL DEFENCE COLLEGE

The National Defence College, New Delhi was established in 1960 to expose senior Defence and civilian officers on major problems of national security and strategy. The training at the College is designed for a broad understanding of the varied economic, political, military, scientific and organisational issues involved in the planning of national strategy.

SAINIK SCHOOLS

Sainik schools prepare boys academically and physically for entry into National Defence Academy. There are 18 sainik schools in the country, one in each state, except in Nagaland, Meghalaya, Tripura, Sikkim, Arunachal Pradesh, Mizoram and Goa. These schools are affiliated to the Central Board of Secondary Education and follow the 10+2 pattern of education.

Admission is made to class VI on the basis of an all-India entrance examination held every year in February, in which boys in the age group of 10-11 years are eligible to appear. Since its inception a total of 4,529 boys from these schools were selected for admission to the National Defence Academy, Naval Academy, Armed Forces Medical College etc.

RASHTRIYA INDIAN MILITARY COLLEGE

Education on public school lines is imparted at the Rashtriya Indian Military College (RIMC) principally for boys who subsequently desire to join the National Defence Academy, with a view to obtaining commission in

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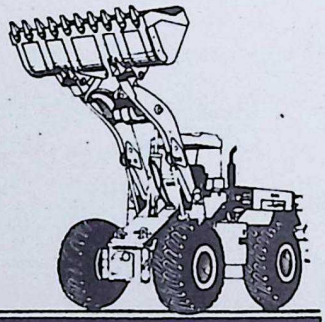

	1982-83	1992-93
	(Rs in crores)	
Equity	16	30
Reserves	66	383
Networth	82	413
Production	357	949
Sales	335	901
Profit Before Tax	42	49
Profit After Tax	16	36
Exports	06	71

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the Armed Forces. The intake is at class VIII. The College runs classes from 8th to 10+2 class. Selection for the RIMC is through a written-cum *viva voce* examination conducted through state governments. Seats for the various states are reserved on the basis of population and allotted subject to availability of vacancies. The intake into the RIMC is bi-annual.

NATIONAL DEFENCE ACADEMY

National Defence Academy (NDA) Khadakvasla is a joint services training institution which imparts academic as well as service training. The syllabus of the Academy has been approved by the Jawaharlal Nehru University for the grant of BA/BSc degree at the time of passing out from the Academy. The first Course commenced training on the revised syllabi in January 1989. After passing out from NDA, the cadets go to their respective service academies for further training, before being commissioned as officers in the Armed Forces. The present strength of Army, Navy and Air Force cadets at the Academy is 1, 668, including 15 cadets from Bhutan.

INDIAN MILITARY ACADEMY

Indian Military Academy (IMA) Dehradun caters for the training of Gentlemen Cadets (GCs) for commission into the Army. Gentlemen Cadets join the IMA through the following modes of entry: (a) on passing out from NDA; (b) on graduation from the Army Cadet College, which is a wing of the IMA itself; (c) direct entry graduate cadets who join on qualifying a Union Public Service Commision examination and selection through the Services Selection Board and (d) technical graduates.

OFFICERS TRAINING ACADEMY

Officers Training Academy (OTA), Madras, trains cadets for Short Service Commission in the Army. OTA holds a 44 week course for graduates who qualify in the examination conducted by the Union Public Service Commission and the Services Selection Boards and who are between 19 and 25 years of age on the first day of the month in which the course starts. The Academy also runs Regimental Commission courses and Permanent Commission (Special List) course for the grant of commission to selected JCOs/NCOs.

OTHER TRAINING CENTRES AND SCHOOLS

The College of Combat, Mhow, conducts the higher command, senior command, and junior command courses for Army officers. It also conducts a Combined Operational Review and Evaluation (CORE) Programme for selected senior officers of the rank of Maj Gen and equivalent of the three Services once every year. College of Military Engineering, Kirkee (Pune), imparts training to the officers and other ranks in all aspects of military engineering. Longcourses of over two years duration are also conducted to train officers upto degree standard.

Military College of Telecommunication Engineering, Mhow, imparts basic and advanced technical training in telecommunications and signal

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tactics. Armoured Corps Centre and School, Ahmednagar, conducts training in tactical handling of armoured fighting vehicles and their driving and maintenance. School of Artillery, Deolali, provides training in field branch artillery and the Air Defence Guided Missiles School at Gopalpur on-sea trains personnel of the Air Defence Artillery.

Infantry schools at Mhow and Belgaum conduct a variety of courses for infantry officers and men which include training in various infantry weapons systems and tactical training. The High-Altitude Warfare School located at Gulmarg and Sonmarg train personnel in the art of mountain warfare including rock, snow and ice craft. The Counter Insurgency and Jungle Warfare School, Vairengte, trains officers and men in the art of combating insurgency.

Mechanised Infantry Regimental Centre conducts basic and technical training for recruits of mechanised infantry. In addition, it runs basic and instructor courses on antitank guided missiles for officers, JCOs and other ranks of mechanised infantry. It also carries out conversion training of units when they are converted to mechanised infantry or when change in equipment is involved.

College of Materials Management, Jabalpur, imparts specialised training in materials management including ammunition and explosives and also in contemporary materials management techiniques. Some of the other Army training centres and schools are Army Service Corps School, Bareilly; EME School, Vadodara; Military College of Electronics and Mechanical Engineering, Secunderabad, College of Defence Management, Secunderabad, Remount and Veterinary Corps Centre and School, Meerut; Army Education Corps Training College and Centre, Pachmarhi; Army Shool of Physical Training, Pune; Army/Air Transport Support School, Agra; Army Clerks Training School, Aurangabad; Military Intelligence Training School and Depot, Pune; Army School of Mechanical Transport, Bangalore; Corps of Military Police Centre and School, Bangalore; Institute of Military Law, Kamptee; Armed Forces Medical College, Pune; Institute of National Integration, Pune and Army Medical Corps Centre and School, Lucknow.

ARMED FORCES MEDICAL COLLEGE

The Armed Forces Medical College (AFMC), Pune, is one of the premier medical institutions of India. An all India entrance examination is conducted every year at selected centres to select candidates for the MBBS course at AFMC, Pune. During 1992-93 more than 26,000 candidates appeared in the examination out of which 130 candidates, including seven women, were finally admitted to the course. On successful completion of MBBS, AFMC candidates join the Army Medical Corps as Permanent Commissioned Officers.

NAVAL TRAINING ESTABLISHMENTS

The prinicipal training units/establishments for the general service officers and men of the Navy are located at Cochin. These units impart training in

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gunnery, navigation, anti-submarine warfare, communication, aviation etc. Other major training establishments are Naval Academy, Goa, where basic training is given to Naval cadets and direct entry officers of all branches; INS Chilka, Orissa, where basic training is imparted to sailors and artificers; INS Shivaji, Lonavala, where basic engineering training of technical officers, specialised training for all engineering branch officers, sailors and artificers, NBCD training to all personnel is given; INS Valsura, Jamnagar, where specialised training for electrical branch officers and sailors is given; INS Satavahana, Vishakhapatnam, where specialised training in submarine cadre is given; INS Hamla, Marve, Malad, Bombay, where specialised training is imparted to officers and sailors of Logistics Cadre; INS Kunjali, Bombay, where regulating branch training and MT driving training is undertaken; INS Asvini (INM) Bombay, where medical assistants, training is given; INS Agrani, Coimbatore, where management and leadership training is given to senior sailors; College of Naval Warfare, Bombay, where Higher Command Courses are conducted and INS Garuda, Cochin and INS Hansa, Goa, where specialised training in aviation branch for both technical and non-technical personnel including flying training is imparted; Navy Shipwright School, Vishakahapatnam where specialised training in shipwright branch is imparted.

AIR FORCE TRAINING INSTITUTIONS

Air Force trainees are inducted from four sources, *viz.* National Defence Academy, ex-airmen, National Cadet Corps and direct entry selection by UPSC. The inductions are for both permanent as well as short service commissions. However, these were also granted to the flying (pilots) branch for helicopter pilots from September 1990. SSC courses have also been introduced in the ground duties administrative branches for fighter controllers and ATC officers and the first such course commenced in April, 1992. All non-NDA trainees undergo pre-course training at Air Force Station., Begumpet (Secunderabad), before commencing the basic stage of flying training. The basic stage of flying training (stage I) for pilots is imparted at the Air Force Academy, Hyderabad, followed by advanced flying training (stage II) at Air Force Station, Bidar, Karnataka and Air Force Station, Hakimpet, Andhra Pradesh. Wings and Commissions are conferred on successful completion of stage II of flying training.

Thereafter, the trainees are bifurcated for applied stage (stage III) of training *viz.* fighter stream at *Hunter* and *MIG* operational conversion units; transport stream at Air Force Station, Yelahanka, Karnataka and helicopter stream at the Helicopter Training School Hakimpet.

Basic and advanced navigation training and air signal training is conducted at the Navigation and Signal School, Hyderabad. Non-technical ground duty officers and air traffic control officers are trained at the Air Force Academy, Hyderabad. Flying Instructors School at Tambaram, Madras, trains flying instructors of all categories. College of Air Warfare, Secunderabad, conducts higher joint services and air warfare studies.

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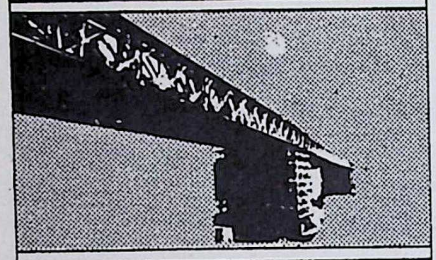

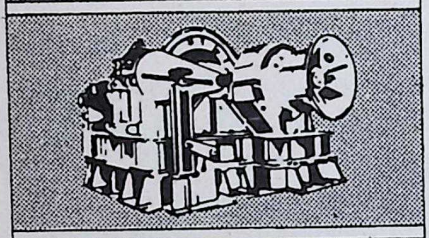

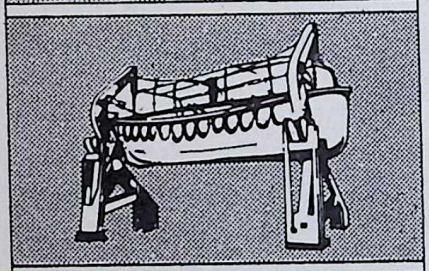

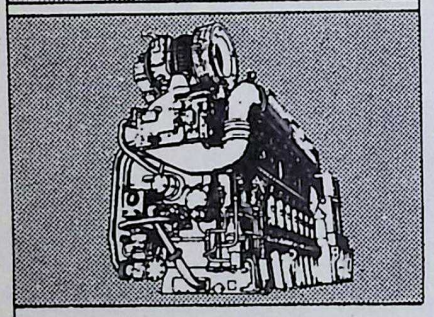

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Air Force Administrative College, Coimbatore, Tamil Nadu, conducts advanced course for ground duty officers of non-technical branches and junior commanders course for all branches. Air Force Technical College, Jalahalli, Bangalore, trains officers of technical branches. Airmen for radio, radar, electrical, instrument and photo trades are trained at Jalahalli. Airmen for mechanical stream pertaining to airframe, engine, weapons, safety, equipment and workshop and supporting non-technical trades are trained at Tambaram.

PRODUCTION AND SUPPLIES

A substantial part of defence stores needed by the Services is now being developed and produced in the country. The responsibility for this has been entrusted to the Department of Defence Production and Supplies in the Ministry of Defence. The Department directs and coordinates production of material and equipment required by the Armed Forces.

ORDNANCE FACTORIES

At present, 39 ordnance factories spread all over India operate a wide-range of technologies and product-mix. Some of the important products are field guns, anti-aircraft guns, mortars, various small arms and ammunition for weapons and guns, rockets, projectiles, pyro-technics, bombs, grenades, mines, demolition charges, depth charges, infantry combat vehicles, battle tanks, self-propelled guns, transport trucks and patrol vehicles. High-altitude and combat clothing, optical and fire control instruments, engineering equipment, supply dropping equipment including parachutes, rubberised items, various knitted and woven items like blankets, web equipment and a wide-range of general stores are produced by them.

The gross value of production in ordnance factories has risen from Rs 1,846 crore in 1987-88 to Rs, 2,225 crore in 1991-92. The budgeted gross value of production for 1992-93 is Rs 2,500 crore. Production of 5.56 mm (indigenously designed) weapon system has been started in ordnance factories. These factories are also successfully producing bombs required by Air Force. Besides, liquid fuel required for successful flight trials of *PRITHVI* and *AGNI* missiles, igniters and copper liners for the warheads were also supplied in the development of PRITHVI missile.

To utilise the sparable capacities after meeting services requirements, linear and lateral shift in customer/product profiles is taken up as a major thrust area of operations in the coming years. The production of *Ajeya* tank (T-72) *Sarath* (BMP-II) infantry combat vehicle continues at Heavy Vehicle Factory, Avadi and Ornance Factory, Medak, respectively. A most modern and sophisticated opto-electronic production unit is set up at Dehradun to produce the opto-electronic fire control and night vision devices required for *Ajeya* Tank (T-72MI) and *Sarath* Vehicle (BMP-II). Completely indigenous production of *Ajeya* tank and *Sarath* infantry combat vehicle is planned from 1994-95.

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DEFENCE UNDERTAKINGS

There are eight public sector undertakings (PSUs) under the Department of Defence Production and Supplies. These are: Hindustan Aeronautics Ltd. (HAL), Bharat Electronics Ltd. (BEL), Bharat Earth Movers Ltd. (BEML), Mazagon Dock Ltd. (MDL), Garden Reach Shipbuilders and Engineers Ltd. (GRSE) Goa Shipyard Ltd. (GSL), Bharat Dynamics Ltd. (BDL), and Mishra Dhatu Nigam Ltd. (MIDHANI). These undertakings, besides meeting the requirements of the defence sector, also cater to the needs of the civil sector.

Of the eight defence PSUs, five PSUs, namely, HAL, MDL, GRSE, BDL and MIDHANI are wholly owned by the Government of India. During 1991-92, 20 per cent shares each of BEL and BEML were sold to various banks/financial institutions/mutual funds. GSL, which was till recently a subsidiary of MDL, has now become a Government company in which 51.08 per cent shares are held by the President of India, 47.21 per cent by MDL and 1.71 per cent by other parties.

The value of production of the PSUs during 1992-93 has been of the order of Rs 3, 769.17 crore (provisional) against Rs 3, 272.22 crore in 1991-92. During the year 1991-92, the value of sales by these PSUs to the defence and civil sectors amounted to Rs 2, 182 crore and Rs 1, 260 crore respectively.

Hindustan Aeronautics Ltd. (HAL) set up in 1964, has 12 divisions located in six states with its corporate office at Bangalore. The principal function of the company is to design, manufacture, repair and overhaul various types of aircraft, helicopters and related aero-engines, avionics, instruments and accessories. HAL is currently manufacturing *Jaguar, Dornier*-228 and *MIG-27M* aircraft, *Cheetah* and *Chetak* helicopters, and various types of aero-engines. HAL is also engaged in the design and development of an Advanced Light Helicopter (ALH). The first prototype of the ALH flew on 30 August 1992.

Bharat Electronics Ltd. (BEL) was established in 1954. Presently, it is the country's premier electronics organisation, having nine manufacturing units located at Bangalore, Madras, Hyderabad, Machilipatnam, Pune, Taloja, Panchkula, Ghaziabad and Kotdwara. Its corporate office is at Bangalore. BEL is engaged in the design, development and manufacture of sophisticated, state-of-the art electronic equipments for the use of Indian Defence Services, and para military organisations. Other users are All India Radio, Doordarshan, Department of Telecommunications, Police, Meteorological Depatment etc. It has a very wide product range and makes over 350 different products, comprising communications equipment, radars for military and civil use, optical and opto-electronic equipment, sound and vision broadcasting equiipment and electronic components.

Bharat Earth Movers Ltd. (BEML) commenced its operations in January 1965. It has three modern production units at Bangalore, Kolar Gold Fields and Mysore a subsidiary foundry unit in Tarikere (Karnataka) and a

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nation-wide network of sales offces, spare parts depots and service centres. Its corporate office is at Bangalore. The company is presently engaged in the design, development and manufacture of a wide range of sophisticated equipments and systems, particularly earth-moving machines, rail coaches, tracklaying equipment, heavy-duty trucks and trailers, diesel engines etc. BEML is a leader in earth-moving industry with over 70 per cent market share. Over 30,000 of its equipments and systems are productively deployed in India and over 30 other countries across the globe.

Mazagon Dock Ltd. (MDL) is the country's leading ship-building yard and can build warships upto 6000T displacement and merchant ships upto 2700 DWT. It has units at Bombay, Nhava and Mangalore and head-quarters at Bombay. At present, its major activities include construction of submarines, missile boats and destroyers etc. for the Indian Navy and off-shore supply vessels and well-head platforms etc. for the Oil and Natural Gas Commission (ONGC). The company also provides diving services as well as services for coating/lying sub-sea pipes.

Garden Reach Ship-builders and Engineers LTd. (GRSE) is a multi-unit shipyard-cum-general engineeing company. It has six units in and around Calcutta and a Diesel Engine Plant at Ranchi (Bihar). Its corporate office is at Calcutta. It has three distinct divisions—ship engineering and engine divisions. It is presently engaged in the construction of corvettes, frigates, fleet tankers, survey vessels etc. for the Naval Physical Oceanographic Laboratory (NPOL) and in the refit of ships belonging to the Indian Navy and the Coast Guard. The company is also manufacturing portable bridges, marine sewage treatment plant, deck-machinery items, agricultural pumps and diesal engines etc.

The activities of Goa Shipyard Ltd (GSL) located at Vasco-da-Gama, primarily comprise construction and repair/refit of ships/vessels. It has undertaken construction/refit of variety of vessels for the Indian Navy and the Coast Guard as well as for the non-Defence sector. It is currently building advanced offshore patrol vessels of inhouse design.

Bharat Dynamics Ltd (BDL), established in 1970, is primarily engaged in the manufacture of guided missiles and allied equipments. It has units at Hyderabad and Bhanur (Medak district). Its corporate office is at Hyderabad. It is also the prime production agency for manufacture of four new missile systems, namely *Prithvi, Trishul, Akash* and *Nag*, being developed indigenously. BDL, which had earlier diversified its activities in a number of Naval projects, now proposes to take up manufacture of 7.62 mm self-loading rifles (SLRs) and 9 mm pistols.

Mishra Dhatu Nigam Ltd. (MIDHANI) located at Hyderabad, was incorporated in 1973. MIDHANI's product range includes super alloys, titanium alloys, maraging steels, heat resistance alloys, controlled expansion alloys, tungsten, molebdenum etc. in a variety of mill forms. Most of the products of MIDHANI are import substitution items.

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RESEARCH AND DEVELOPMENT

Defence Research and Develoment Organisation (DRDO) was established in 1958 by amalagamating Defence Science Organisation and some of the technical development establishments. A separate Department of Defence Research and Development was formed in 1980 which now administers DRDO and its 50 laboratories/establishments.

The Department of Defence Research and Development formulates and executes programmes of scientific research, design and development in the fields of relevance to national security leading to the induction of new weapons, platforms and other equipments required by the Armed Forces. It also functions as the nodal agency for the execution of major development programmes of relevance to Defence through integration of research, development, testing and production facilities with the national scientific institutions, public sector undertakings and other agenies. It functions under the control of Scientific Advisor to Raksha Mantri who is also Secretary, Defence Research and Development. Research and development activities at DRDO cover important demarcated disciplines like aeronautics, rockets and missiles, electronics and instrumentation, combat vehicles, engineering, naval systems, armament technology including explosives research, terrain research, advanced computing, artificial intelligence, robotics, works study, systems analysis and life sciences including high-altitude agriculture, physiology, food technology and nuclear medicine. In addition to undertaking research and development activities, DRDO also assists the Services by rendering technical advice regarding formulation of requirements, evaluation of systems to be acquired, fire and explosive safety and mathematical/statistical analysis of operational problems.

DRDO has made significant achievements in its efforts to meet the requirements of the three Services. The notable developmental successes include flight simulators for aircrafts, 68mm reusable rocket pod, brake parachute for fighter aircrafts, mini remotely piloted vehicle, light field gun, new family of light weight small arms systems, charge line mine clearing vehicle for safe passage of vehicles in battlefield and illuminating ammunitions for enhancing night fighting capabilities. Cluster weapon systems for fighter aircraft, naval mines, new generation bombs for high speed aircraft and low-level bombing, mountain gun, 130 mm SP gun, low-level tracking radar *Indra*-I and II for Army and Air Force, light field artillery radar, battlefield surveillance radar, secondary surveillance radar have also been achieved. Bridge layer-tank *Kartik,* military bridging systems capable of withstanding tank load, advanced ship sonar systems, advanced sono buoys, naval decoys, naval simulators, torpedo launchers, advanced materials and composites for military applications and parallel processsing computer for aerodynamic computations have also been developed.

Several high-technology projects are in various stages of design and development. The main battle tank *Arjun*, incorporating state-of-art tank technologies with superior fire power, high mobility and excellent

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protecion has been developed. Limited number of tanks are being produced as pre-production series which are in final stages of evaluation by the Army. A light combat aircraft which would be lighter than any other combat aircraft and would incorporate modern design concepts and several state-of-the art technologies, is under full scale engineering development (FSED).

The Integrated Guided Missile Development programme is in progress. The programme comprises of four missile systems namely *Prithvi* -surface-to-surface tactical battlefield missile, *Akash* medium range surface-to-air missile systems, *Trishul*-a short range surface-to-air missile and *Nag*-third generation anti-tank missile. Number of flight tests of these missiles have been successfully carried out proving various sub-systems.

DRDO offers specialised training at its two premier training institutions called Institute of Armament Technology, Pune and Defence Institute of Work Study, Mussoorie. The courses at these institutions have been evolved primarily to meet the needs of DRDO, Department of Defence Production and Supplies and the three Services.

TERRITORIAL ARMY

The Territorial Army is a voluntary part-time civilian force which plays a useful role in the defence of the country. It affords an opportunity to civilians to receive military training and also provides the country with a reserved force that can assist the regular Army during operations, whenever required. It was raised in 1949 and , since its inception, has rendered valuable service, both in times of war and during internal disturbances.

The Territorial Army consists of departmental and non-departmental TA units. Departmental TA units are raised from amongst the employees of government departments and public sector undertakings. There are, at present, 27 departmental and 25 non-departmental TA units. The three ecological battalions are also part of the departmental TA units.

As a result of internal disturbances and terrorist activities in Punjab, Jammu and Kashmir and other states and the prevailing conditions along our northern and western borders, the Territorial Army has, of late, been called upon to play an active role in assisting the local Army formations in these areas. As a result of these demands, all the 25 infantry battalions (TA) have been embodied since 1990-91, for varying periods.

The three ecological battalions of the TA (called Eco Task Forces) have continued their excellent work of environmental upgradation of the degraded areas in Rajasthan, UP and Jammu and Kashmir. In consultation with the Ministry of Environment and Forests, several steps aimed at reducing the cost of these Eco Task Forces, without actually lowering their output or efficiency, have been taken up. A proposal to reorganise 16 infantry battalions (TA) initiated by the TA Directorate, has been approved by the Ministry of Defence.

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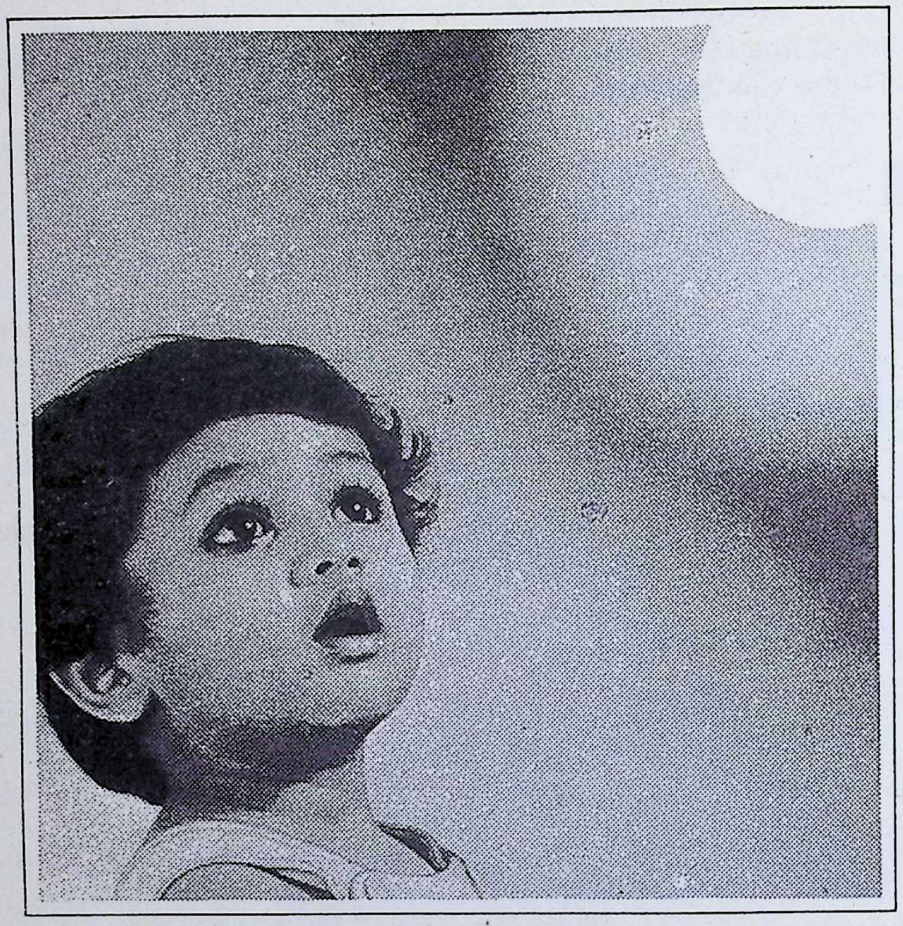

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NATIONAL CADET CORPS

Since its inception on 15 July 1948, the National Cadet Corps (NCC) has matured into the largest disciplined youth movement in the country. It has nearly 11 lakh boys and girls in the Senior Division and Junior Division in the Army, Navy and Air Force wings. The basic objectives of NCC, whose motto is "Unity and Discipline" are as follows: (a) to develop qualities of character, courage, comradeship, discipline, leadership, secular outlook, spirit of adventure and sportsmanship and the ideals of selfless service among the youth to make them useful citizens; and (b) to create a human resource of organised, trained and motivated youth, to provide leadership in all walks of life including the Armed Forces and to be always available for the service of the nation.

The Directorate General NCC, located at New Delhi, controls and oversees the activities of the NCC which functions through 16 NCC directorates spread across the country. There is a Central Advisory Committee for the NCC to provide overall policy guidelines. NCC is manned by Service personnel, wholetime NCC officers and civilians. One teacher/lecturer in each educational institution is also appointed as the Associate NCC Officer.

During 1992-93 total of 26 Centrally organised camps were held in which 9,517 cadets participated from the Army, Navy, Air and Girls wings. Eightyone national integration camps were conducted in which nearly 50,000 cadets have participated. This includes a camp held in Port Blair which was attended by cadets from all over the country. A total of 3,22, 967 cadets attended Annual Training Camps (ATC) and 160 girl cadets of the Senior Wing (SW) attached with Air Units also attended the ATC at Nadirgul. As many as 148 officers and 8,636 cadets participated in attachment training during the year; 877 girl cadets did attachment training with the Armed Forces hospitals and 1, 95, 091 NCC cadets participated in social service activities such as blood donation, eye donation, cheshire homes, anti-dowry pledge, adult education etc., and 6, 37,644 trees were planted.

A team of 8 officers and 42 cadets (21 boys and 21 girls) visited Canada in July 1992 under Indo-Canada Youth Exchange Programme. A similarly composed Canadian contingent was in India till January 1993. Similarly, 111 cadets visited other foreign countries on a reciprocal Youth Exchange Programme while 32 foreign cadets from seven countries attended the Republic Day Camp (NCC), 1993.

During 1992-93, 18 NCC personnel were awarded DGNCC's Commendation Card with badge for outstanding contribution to the Organisation. Three RM's Commendation Cards with badges and four Defence Secretary's commendation cards were awarded to three NCC cadets and one first officer.

RESETTLEMENT AND WELFARE OF EX-SERVICEMEN

To maintain a youthful profile of the Armed Forces, about 50,000 to 55,000 service personnel are retired or released every year at a comparatively

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young age. Because of the early retirement, they need a second career so that they can continue to earn a livelihood. Directorate General of Resettlement (DGR) under the Ministry of Defence is the nodal agency for coordinating activities for the resettlement and welfare of ex-servicemen including their widows and dependents. There are four zonal resettlement directorates in Eastern, Central, Western and Southern Army Commands. Each state has a Rajya Sainik Board and a number of Zila Sainik Boards for this purpose. The main resettlement and welfare activities undertaken by the DGR are for providing employment, self-employment and training.

EMPLOYMENT

Employment constitutes the principal method of resettlement of ex-servicemen. For this purpose, the Central Government has reserved 10 per cent of Group 'C' and 20 per cent of Group 'D' posts for ex-servicemen in Central ministries and departments. The percentages of reservation in Central public undertakings and nationalised banks in these categories are $14^1/_2$ per cent and 24 1/2 per cent respectively. In addition, 10 per cent posts of Assistant Commandants in Central para-military forces have been reserved for ex-servicemen. They are also re-employed in Defence Security Corps and ecological Territorial Army task forces. Most of the states have also provided reservation of posts for ex-servicemen. The ex-servicemen are allowed relaxation in upper age limit and educational qualifications for employment against reserved vacancies. Service personnel disabled during war or peace time and where the disability is attributable to servic are accorded priority for employment. In case the disabled person is unable to take up employment himself, two members of his family are accorded priority II A for employment assistance. Widows/dependents of soldiers who die in harness are eligible for benefits of appointment on compassionate grounds. Full military pensions is exempted while fixing the pay of ex-servicemen on re-employment in the case of personnel below officer level. In the case of officers, pension upto Rs 500 is exempted. The limit for pension plus pension equivalent of gratuity and re-fixed pay has been raised from Rs 3, 500 to Rs 8,000.

During the year 1991, 13, 973 ex-servicemen were given employment in Central/state governments, public sector undertakings, banks and in the private sector. Special efforts have been made for resettlement of the service personnel disabled in OP Pawan in Sri Lanka as also for resettlement of the widows/dependents of those killed during these operations.

SELF-EMPLOYMENT

Since it is not possible to give jobs to all retiring Defence personnel, a number of schemes have been implemented by the states and the Centre for encouraging ex-servicemen to get resettled in various self-employment ventures, such as : (a) scheme for self-employment for ex-servicemen (SEMFEX-I) was launched in April 1987 in collaboration with Industrial

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Development Bank of India (IDBI), now Small Industrial Development Bank of India (SIDBI). Under this scheme, projects upto Rs 15 lakh are financed, out of which 10 per cent is paid by prompter, 15 per cent soft seed capital assistance at 6 per cent interest is given by SIDBI and DGR, and the remaining 75 per cent is given by the State Financial Corporation (SFC) at an interest rate of 11.5 per cent to 20 per cent. Soft seed assistance is not applicable for transport loans except gas tankers, pay loaders and tipper trucks. The scheme has become very popular and till 30 September 1992 loan amounting Rs 1, 767.45 lakh has been sanctioned to 6, 654 ex-servicemen; (b) scheme for self-employment for ex-servicemen (SEMFEX-II) was launched on 15 January 1988 in collaboration with National Bank for Agricluture and Rural Development (NABARD). Under this scheme, loans upto Rs 7.5 lakh for non-farm sector projects are sanctioned under the integrated loan scheme. The ceiling of Rs 7.5 lakh will not be applicable in case of units relating to agro-industries satisfying the limit of SSI, in so far as it relates to investment in plants and machinery. There is no upper ceiling prescribed for loans under farm sector. Recently a revolving fund of Rs 20 lakh has been created for a period of 5 years to provide soft loan assistance upto 5 per cent total project cost subject to the maximum of Rs 75,000. This has come into effect from 1 April 1993. Till September 1992 loans amounting Rs 744.70 lakh have been sanctioned to 1, 584 ex-servicemen; (c) scheme for self-employment for ex-servicemen (SEMFEX-III) was launched by Directorate General Resettlement and Khadi and Village Industries Commission on 15 October 1991 to provide adequate self-employment opportunities to ex-servicemen, disabled service personnel and widows of ex-servicemen through promotion and development of Khadi and Village Industries in rural areas. Till December 1992 loans to two ex-servicemen cooperatives amounting to Rs 17.5 lakh have been sanctioned under this scheme; (d) the scheme to raise ex-servicemen coal transport companies for transportation of coal in coal subsidiary organisations was formulated in 1979. Provision has been made for single driver-owned vehicles to join the companies. A total of 70 companies are presently operating in this field; (e) 210 ex-servicemen have been sponsored to carry bulk LPG by tankers etc. Besides these, various other steps are being taken to ameliorate the lot of ex-servicemen. Gas agencies, petrol pumps and kerosene oil agencies, Mother Dairy and DMS milk booths, vegetable and fruit booths, UTI agencies, fertiliser agencies and shops are being allotted to them. In addition, each state has certain schemes for allotment of *Jai Jawan* stalls and agencies.

TRAINING

Resettlement training courses are organised for retiring/retired service personnel in various disciplines in government and private institutions to assist them to find gainful employment or self-employment after superannuation. Approximately 50 training courses for officers and 320 for personnel below

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officers rank are conducted every year. Duration of vocational training courses ranges from two weeks to three months for officers and two weeks to two years for other ranks. These training courses, which are organised according to the demand from the three services headquarters, encompass a variety of subjects including technical, non-technical and agro based vocations. On-the-job training is imparted by various public sector undertakings in a maximum of ten vocational trades for nine months to an average of about 1,300 personnel every year. Training is also imparted by ITIs to about 1,000 retiring personnel every year under the "Pre-cum-Post Release Training Scheme". Under the scheme, "preparing ex-servicemen for self-employment" (PEXSEM), training, guidance and financial assistance is given to ex-servicemen in their respective districts so that they may set up self-employment ventures in rural areas. Disabled ex-servicemen/servicemen are imparted technical and non-technical training at Queen Mary's Technical Institute (QMTI), Pune to prepare them for suitable employment/self-employment. Over 6,350 disabled defence personnel have so far received training in this school.

WELFARE

Ex-servicemen are authorised free medical facilities in military hospitals and canteen facilities at the nearest CSD canteen. Two hundred and twenty seven sainik rest houses are in existence at different places all over the country to enable ex-servicemen to stay for short durations. Children of Defence personnel killed or disabled in action are entitled to free educational facilities such as fees, hostel charges, cost of uniform etc. Seventy five per cent concession in rail fare for travel in second class is given to all war widows. The recipients of gallantry awards of PVC, MVC, VrC, AC, KC, and SC are given 50 per cent concession for air and rail travel in second class. Thirty one war memorial hostels have been constructed in various regimental centres for providing accommodation to wards of war widows, war disabled and attributable-peace-time casualities. A stipend of Rs 400 per month is paid to each eligible ward. Financial assistance for construction of houses and marriage of daughters is given to war widows, war disabled and attributed-peace time casualities by state governments and the Kendriya Sainik Board.

Ex-servicemen and their widows, who are in penury, are given financial assistance by the Kendriya Sainik Board, the Defence Minister's Appellate Committee and the Rajya Sainik Boards from their welfare funds. Grants are also given for special medical treatment. The Kendriya Sainik Board also gives grants to paraplegic homes, cheshire homes and other charitable institutions to cater for expenditure incurred on ex-servicemen inmates.

Consequent to the implementation of the recommendations of the Fourth Pay Commission, substantial improvements have been made in pension to war widows, disabled ex-servicemen and widows of attributable peace time casualities. Minimum pension including family pension has been raised to Rs 375 plus dearness allowance.

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CANTONMENT BOARDS

Cantonments were established under the Cantonments Act 1924 to safeguard the health, welfare and security of the armed forces personnel. The Act also provides for municipal administration for the civilian population in the cantonment areas. A board is constituted in each cantonment comprising elected, nominated and ex-officio members who function under the administrative and financial control of the GOC-in-C of the Command. The term of the elected members of the Cantonment Board is five years. There are 62 cantonments in the country.

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5 Education

EDUCATION is an integral part of the country's development process and thus has been accorded a high priority. Phenomenal expansion has taken place in the field of education since Independence. The number of schools increased from 5,30,000 in 1950-51 to 8,11,022 in 1991-92. The enrolment in schools increased from about 2.4 crore in 1950-51 to about 15.7 crore in 1991-92. Since Independence the gross enrolment ratios have gone up many times and have reached 102.74 per cent in classes 1-V and 61.15 per cent in classes VI-VIII. The number of universities (including deemed universities) has increased from 25 at the time of Independence to 196 and the number of colleges from about 700 to 8,111 by 1991-92. In addition there are 887 polytechnics. The student enrolment in universities and colleges increased from about two lakh at the time of Independence to 43.36 lakh in 1991-92. The literacy rate as per the 1991 census is 52.11 per cent compared to 20 per cent in 1947.

With quantitative expansion of educational facilities, there is now a greater emphasis on qualitative improvement. Before 1976, education was largely the responsibility of states, the Central Government being only concerned with certain areas like coordination and determination of standards in technical and higher education, etc. In 1976, through a Constitutional Amendment education became the joint responsibility of the Centre and the states.

Universalisation of elementary education, eradication of illiteracy in the age group of 15 to 35 and strengthening of vocational education (VE) so as to relate it to the emerging needs in the urban and rural settings are the major thrust areas of the Eighth Plan in the education sector. Utilisation of formal, non-formal and open channels of learning would be the strategy for this purpose. The changed approach, improved methodology of teaching, increased participation of NGOs and student volunteers have infused a new vitality into the literacy programme and have given it a fresh momentum. The aim would be to impart a similar vitality and momentum to the universal elementary education programme with a definite edge in its favour. The Eighth Five Year Plan strategy for universalisation of elementary education envisages adoption of disaggregated target setting and decentralised planning. District specific plans for universalisation of elementary education are proposed to be drawn within the strategy frame of micro planning through people's participation and introduction of minimum levels of learning.

The current strategies for achieving UEE and universal literacy proceed

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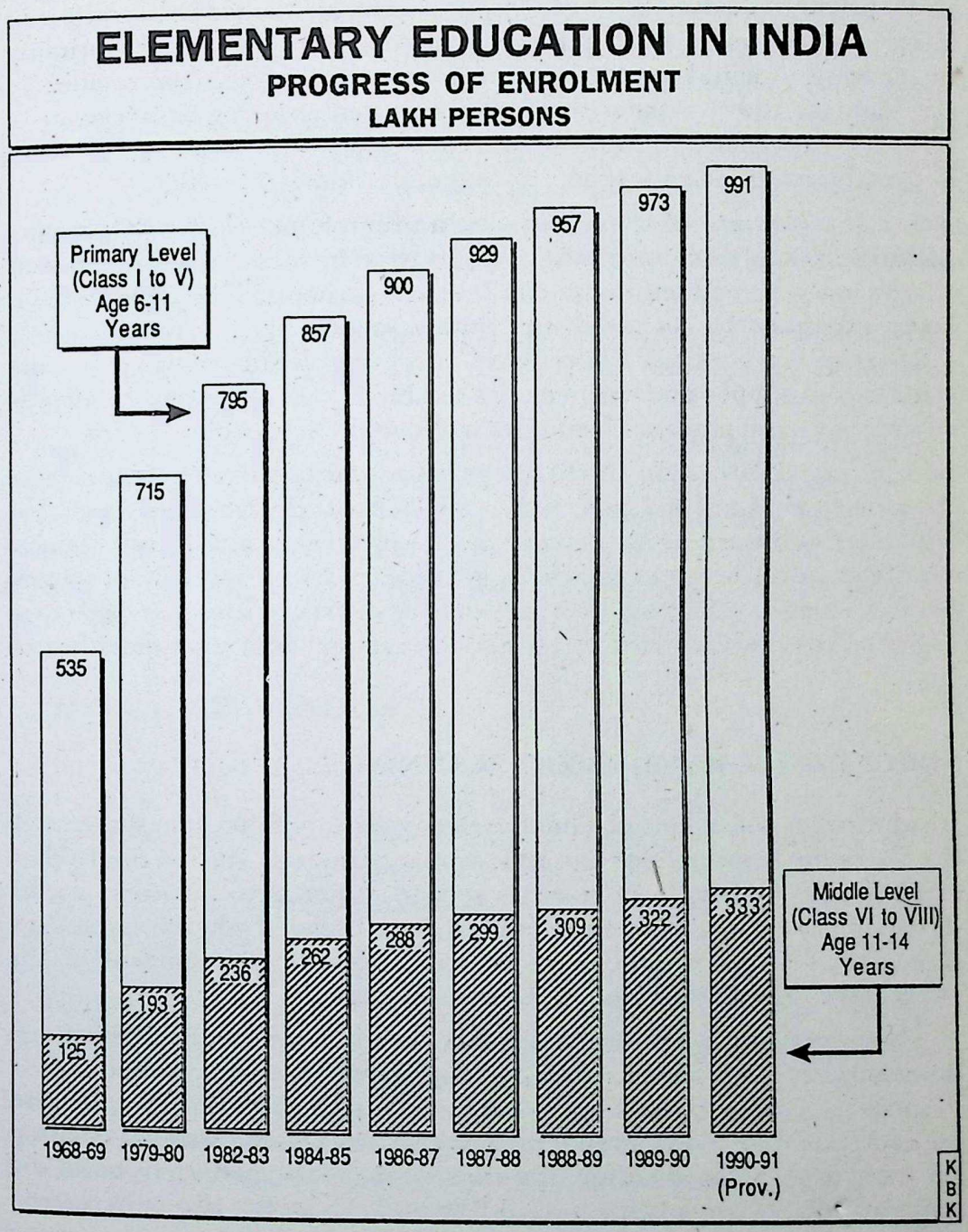

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from the premise that a host of measures, both on the supply side and demand side, are required to complement higher allocation of resources. These include giving as much importance to retention and levels of achievement as enrolment, focussing on the more difficult aspects of accesses to girls and disadvantaged groups, providing alternative pre-service and in-service teachers training, improving school effectiveness, pump-priming the deficient demand for education and enlisting the local communities in the planning and management of education and ensuring convergence of different services in the social sectors, more particularly child care, nutrition, early childhood education, primary education and health.

For improvement of school facilities, a programme entitled "Operation Blackboard" is already in operation to provide basic amenities in primary schools and a second teacher in single teacher schools. This programme is being expanded to cover upper primary schools and to provide three teachers to every school. Efforts have also been already initiated to raise standards of science and mathematics teaching at all levels and to include environment and population education also in the school curriculum.

Non-formal Education (NFE) Programme which caters to the needs of drop-outs, working children and out-of-school children has been expanded. Open learning systems are being encouraged at all levels. Education of scheduled castes and scheduled tribes is being specially promoted besides women's education, which is an area of crucial importance. Necessary reforms are being initiated to make vocational education more attractive.

EDUCATIONAL MANAGEMENT PLANNING

In addition to policy formulation, the Department of Education shares with the states the responsibility for educational planning. Till the Sixth Plan, education was taken to be a social service rather than an input in the development process. The emphasis has since changed whereby education is now considered pivotal in social and economic development of the country through development of human resources.

This is reflected in the National Policy on Education (NPE), 1986 and in the budgetary allocation of resources. The Eighth Plan outlay for education (Centre and states) at Rs 19, 599.7 crore is higher than the Seventh Plan expenditure of Rs 7,632.9 crore by 2.6 times. In keeping with this step-up the Central plan allocation for education has been stepped up from Rs 952 crore in 1992-93 to Rs 1,310 crore in 1993-94. There has also been an *inter se* shift in the allocation of resources within the education sector—from higher education to elementary education. The outlay on elementary education in the Eighth Plan is 46.95 per cent compared to 33 per cent in the Sixth Plan and 37.33 per cent in the Seventh Plan. The expenditure on higher education which was 22.09 per cent in the Sixth Plan declined to 15.74 per cent in the Seventh Plan and the outlay for higher education in

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the Eighth Plan is 7.73 per cent. Sector-wise plan outlay/expenditure on education is given in table 5.1.

The National Policy on Education (NPE), 1986 is a landmark in educational development of the country. A review of the NPE, 1986 was conducted during 1990-92. The Central Advisory Board of Education (CABE) in its 47th meeting held on 5-6 May 1992 considered the report of the CABE Committee on Policy set-up to make an in-depth study of the Report of the Committee for Review of NPE, 1986. While broadly endorsing the Policy, it recommended certain modifications in the light of the developments during the last few years and the experience gained in the implementation of the Policy. The revised Policy Formulations containing these modifications recommended by the CABE were tabled in the Parliament on 7 May 1992.

Following the adoption of the revised Policy Formulations in May 1992, a revised POA was prepared. The POA 1992 was tabled in the Parliament on 19 August 1992.

Universalisation of elementary education, equalisation of educational opportunities, women's education and development, vocationalisation of school education, consolidation of higher education, modernisation of technical education, improvement of quality content and process of education at all levels continue to be the themes of national endeavour in the field of education.

ELEMENTARY EDUCATION

The programme of universalisation of elementary education has been accorded the highest priority to fulfil the constitutional directive of providing universal, free and compulsory education to all children upto the age of 14 years. The revised Programme of Action, 1992 of the National Policy on Education 1986 resolves to ensure free and compulsory education of satisfactory quality to all children upto 14 years of age before we enter the 21st century. Various Centrally sponsored schemes in the elementary education sector have been initiated to supplement the effort of states for achieving this target. 'Operation Blackboard' was started in 1987-88 to provide physical facilities in primary schools all over the country. The revised Programme of Action, 1992 of the National Policy on Education 1986 enlarged the scope of Operation Blackboard to provide three teachers in every primary school and to cover the upper primary schools. In order to operationalise the revised policy of the Government, the following three sub-schemes are proposed under Operation Blackboard during the Eighth Five-Year Plan: (i) Continuation of the on-going scheme to cover all the remaining schools identified in the Seventh Plan; (ii) expanding the scope of the scheme to provide three rooms and three teachers in primary schools and (iii) extending the scope of the scheme to upper primary schools.

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TABLE 5.1 SECTOR - WISE PLAN OUTLAY/EXPENDITURE ON EDUCATION

(Rupees in million)

Sector	Sixth Plan Expenditure				Seventh Plan Expenditure				Eighth Plan Outlay			
	Centre	State	Total	Percentage	Centre	State	Total	Percentage	Centre	State	Total	Percentage
Elementary Education	724.00	7,633.30	8,357.30	33.04	6,584.90	21,909.20	28,494.10	37.33	28,800.00	63,214.20	92,014.20	46.95
Adult Education	1,103.30	1,135.00	2,238.30	8.85	3,139.40	1,565.30	4,695.70	6.15	14,000.00	4,476.40	18,476.40	9.43
Secondary Education	167.50	5,135.90	5,303.40	20.97	5,960.10	12,355.00	18,315.10	23.99	15,190.00	19,787.90	34,977.90	17.85
Higher Education	2,428.20	3,158.30	5,586.50	22.09	6,599.60	5,411.70	12,011.30	15.74	7,000.00	8,155.50	15,155.50	7.73
Others	394.70	685.70	1,080.40	4.27	670.70	1,308.80	1,979.50	2.59	1,200.00	6,309.00	7,509.00	3.83
Technical Education	1,358.00	1,370.70	2,728.70	10.79	6,109.60	4,723.80	10,833.40	14.19	8,240.00	19,623.80	27,863.80	14.22
Total Education	6,175.70	19,118.90	25,294.60	100.00	29,055.30	47,273.80	76,329.10	100.00	74,430.00	121,566.80	195,996.80	100.00

Source : Ministry of Human Resource Development

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To achieve the goal of universalisation of elementary education, the Non-formal Education Programme has been put into operation in 1979-80 to provide education of a quality comparable to formal system to children who do not/cannot attend school, school drop-outs, girls who cannot attend whole-day schools and working children. This scheme was reorganised and expanded in 1987-88. The scheme covers ten educationally backward states *viz.* Andhra Pradesh, Assam, Arunachal Pradesh, Bihar, Jammu and Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, West Bengal and areas of urban slums, hilly desert and tribal areas and areas of concentration of working children in all other states and union territories. Under the scheme, assistance is given to the states/union territories in the ratio of 50:50 and 90:10 for running general (co-educational) and girls centres respectively. Hundred per cent assistance is given to voluntary agencies for running non-formal education centres and undertaking experimental and innovative projects. About 2.7 lakh centres have been sanctioned so far. The programme of NFE are proposed to be to continued and revised in the Eighth Plan.

In elementary education the focus has been shifted from enrolment *per se*, to retention and achievement. The focus also shifted from exclusive concern with schooling to a holistic perception which stressed the need of providing alternative system of education of comparable quality to working children and girls whom the school cannot reach. The concepts of participative micro-planning and local-level capacity building were given wide currency and tested as well as tried through experimental projects. They are today important elements of the strategy to achieve universalisation of elementary education.

In pursuance to the provisions of NPE on teacher education a Centrally sponsored scheme of Restructuring and Reorganisation of Teacher Education was launched in 1987-88. So far 334 DIET, 44 CTEs and 18 IASEs has been established throughout the country to impart good quality or pre-service and in-service training to teachers.

SECONDARY EDUCATION

Education is free upto secondary stage (Class X) in Andhra Pradesh, Arunachal Pradesh, Assam, Bihar , Goa, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Nagaland, Sikkim, Tamil Nadu, Tripura, West Bengal, Andaman and Nicobar Islands, Dadra and Nagar Haveli, Daman and Diu, Lakshadweep and Pondicherry. In Jammu and Kashmir, Sikkim, Tripura, West Bengal, Andaman and Nicobar Islands, Dadra and Nagar Haveli and Pondicherry, free education is provided even upto the higher secondary stage. Gujarat offers free education upto class XI for boys and class XII for girls. In Haryana, Punjab, Madhya Pradesh, Manipur, Orissa, Rajasthan, Uttar Pradesh, Delhi and Chandigarh, education is free upto class VIII for boys and girls. However, Haryana Maharashtra, Rajasthan, Uttar Pradesh and Dadra and Nagar Haveli offer

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free education for girls upto class XII. In Maharashtra, education is free upto class VII for boys in Government schools. Meghalaya and Mizoram offer free education for boys and girls upto class VI and class VII respectively.

10+2 STRUCTURE OF SCHOOL EDUCATION

Starting from the Calcutta University Commission (1917-19), the 10+2 structure of school of pre-university education was recommended in various educational fora. This common structure was made a part of the National Policy on Education (NPE) 1986 also. All the states/UTs have adopted the 10+2 structure. However, the recommendation made in the NPE for a uniform pattern of duration in respect of the three sub-stages of first 10 years of schooling *i.e.* five years of primary (classes I-V), three years of upper primary (classes VI-VIII) and two years of secondary stage (classes IX & X);is yet to be implemented by all the states/UTs. In some states, the + 2 stage (i.e. classes XI & XII) is a part of the college system partly. The NPE has stipulated that the +2 stage should be brought within the school system gradually.

VOCATIONALISATION OF SECONDARY EDUCATION

Various committees and commissions on educational reforms have stressed the need for diversifying secondary education by introducing knowledge and skills that may prepare students for remunerative work without necessarily having to go in for higher education.

A Centrally-sponsored scheme of Vocationalisation of Secondary Education was started from February 1988. Under the scheme, financial assistance has been provided to state governments/UT administrations for introduction of vocational courses in schools at the + 2 stage. It has many components including conduct of area vocational surveys so that vocational courses to be introduced in selected institutions are need based, preparing curricula and course material, organising training of teachers, providing apprenticeship training and modification of recruitment rules to enable students from vocational stream to find employment in the organised sector.

Under the scheme, a Joint Council of Vocational Education (JCVE) has been set up at the national level for laying down policy guidelines, planning and coordination of vocational programmes conducted by different agencies and organisations. Two meetings of Joint Council of Vocational Education have been held on 8 August 1990 and 6 January 1993. A standing committee of the JCVE has also been set up under the chairmanship of the Union Education Secretary to ensure that the tasks laid down by JCVE are effectively performed. Two meetings of the Standing Committee of the JCVE have been held on 12 September 1990 and 29 June 1991.

Upto 1991-92, 12,543 vocational sections have been approved by the Central Government creating facilities for diversion of 6.27 lakh students to vocational streams at + 2 level. During 1992-93, till 10 February 1993,

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1,623 vocational sections have been approved creating additional facilities for diversion of 0.81 lakh students to vocational streams. Job-linked vocational courses have been started in General Insurance, Life Insurance and Railway commercial. Some health-related vocational courses have also been started. Certain state governments/UTs have also started some vocational courses.

NATIONAL OPEN SCHOOL

'Open School', Delhi, the first of its kind in the country, was started by the Central Board of Secondary Education (CBSE), Delhi in 1979. Based on a Project Report, the Government of India decided to establish the National Open School (NOS) as a registered society and an autonomous body under the administrative control of the Department of Education, Ministry of Human Resource Development in November 1989 and amalgamated the Open School with it. In October 1990 through a Resolution of the Government of India, the NOS was vested with authority to conduct its own bridge, secondary and senior secondary examinations and issue certificates. The NOS offers an alternative open learning system through distance education made to a heterogeneous clientele comprising the rural people, the urban poor, women, SC/ST, working adults and school drop-outs who are unable to attend the formal school system. It takes education to the doorsteps of the motivated learners and allows them to study at their own pace at places and time convenient to them. The NOS has recently introduced a variety of vocational courses.

Currently, the National Open School has a cumulative active enrolment of over two lakh students, literally from every state and UT of India. In the last registration year of 1992-93, 57.14 per cent students were from educationally and socially disadvantaged categories, comprising of women (37.29 per cent), scheduled castes and scheduled tribes (18.78 per cent), ex-servicemen (0.39 per cent) and handicapped (0.68 per cent) who are also provided fee concessions. In the NOS scheme of work, accredited institutions (AIs) have a central place and they provide various types of student services including personal contact programmes. Presently, the NOS has 339 AIs (300 for general education and 39 for vocational education) all over the country.

INTEGRATED EDUCATION FOR DISABLED CHILDREN

It has been established scientifically that disabled children with mild handicaps make better progress academically and psychologically if they study with the normal children. To integrate these children with others in common schools, a revised scheme of Integrated Education for Disabled Children was started during 1987-88. Under it, cent per cent financial assistance is given to state governments/UT administrations/voluntary organisations for creating necessary facilities in schools. Admissible items of

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expenditure are books and stationery allowance, transport allowance, uniform allowance, readers allowance (for blind children), escort allowance (for orthopaedically handicapped with lower extremity disabilities), equipment allowance and wherever necessary hostel charges. Besides, the scheme also provides, among other things, to meet cost of salary and incentives for teachers, setting up of resource rooms, carrying out assessment of disabled children, training of teachers, removal of architectural barriers in schools, development and production of special instructional material for them. Assistance is also given through the University Grants Commission to the selected universities/institutions to run training courses in special education for teachers of handicapped children. Training facilities are also provided by NCERT and four regional colleges of education. The scheme is at present in operation in Andhra Pradesh, Bihar, Goa, Gujarat, Haryana, Jammu and Kashmir, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Delhi, Andaman and Nicobar Islands and Daman and Diu. By the end of 1990-91 about 30,000 disabled children in over 6,000 schools were covered under the Scheme.

EDUCATIONAL CONCESSIONS TO CHILDREN OF ARMED FORCES PERSONNEL KILLED OR DISABLED DURING HOSTILITIES

The Centre and most of the state governments and union territories offer educational concessions to children of the defence personnel and paramilitary forces killed or permanently disabled during Indo-China hostilities in 1962 and Indo-Pakistan operations in 1965 and 1971.

During 1988, these concessions were extended to children of IPKF/CRPF personnel who were killed/disabled during action in Sri Lanka and children of the armed forces personnel killed/disabled in action in 'Operation Meghdoot' in Siachen area.

PROMOTION OF CULTURE/ART/VALUES AND INNOVATIVE PROGRAMMES

ASSISTANCE TO AGENCIES/EDUCATIONAL INSTITUTIONS

The National Policy on Education, 1986 calls for bridging the schism between the formal system of education and country's rich and varied cultural traditions. The Policy also resolves to enrich the processes of education by cultural content, enable the children to develop sensitivity to beauty, harmony and refinement and to promote a Value Education to help eliminate obscurantism, religious fanaticism, and violence. In order to supplement the curricular inventions already made to actualise these goals, a Central plan scheme for assistance to agencies for strengthening culture/art/values in education and for assistance to educational institutions implementing innovative programmes was formulated in 1987 for providing assistance to government agencies, educational institutions, *Panchayati Raj* institutions,

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registered societies, public trusts and non-profit making companies. Under the scheme, assistance is provided for (a) strengthening cultural/art input in the educational content and process; (b) strengthening of value education in the school system; and (c) implementation of pioneering and innovative programmes at the school stage.

During 1992-93, financial assistance of Rs 27.60 lakh was provided to the 11 organisations. A decision has been taken to reformulate the existing scheme in order to make it more purposeful. The scheme has been reformulated to have the following two components: (i) strengthening culture and values in education; and (ii) strengthening the in-service training of art, craft, music and dance teachers.

NAVODAYA VIDYALAYA

In order to provide good quality modern education to the talented children predominantly from the rural areas, Government of India launched in 1985-86 a scheme to establish Navodaya Vidyalaya on an average one in each district. 305 Navodaya Vidyalayas covering 23 states and seven union territories have so far been established in the country. Another 17 Vidyalayas have been sanctioned and are likely to be established during 1993-94.

Admission to Navodaya Vidyalaya is at the level of Class VI. In view of the fact that most of the students so admitted would have been taught earlier through the medium of the mother-tongue/regional language, instruction is provided through the same medium upto Class VI or VIII, during which time intensive teaching of Hindi/English both as a language subject and co-media is undertaken. Thereafter, the common medium would be Hindi/English. At this stage, there is a migration of 30 per cent students in Class IX from one Navodaya Vidyalaya to another Navodaya Vidyalaya in a different linguistic region. The migration is mainly between Hindi and non-Hindi speaking districts.

Break-up of the students selected so far in 305 Navodaya Vidyalayas is as follows, as on 31 January 1993:-

Boys	Girls	Rural	Urban	Genl.	SC	ST	Total
68, 390	27, 511	74,398	21,503	65,999	19,313	10,589	95,901
71 per cent	29 per cent	78 per cent	22 per cent	69 per cent	20 per cent	11 per cent	

Navodaya Vidyalayas are residential, co-educational and primarily for children from rural areas. Hence, admission of children from urban areas is restricted to a maximum of one-fourth. Efforts are made to ensure that atleast one-third of the students in each Navodaya Vidyalaya are girls. Reservation of seats in favour of children belonging to the scheduled castes and scheduled tribes is provided in proportion to their population in the concerned district, provided that in no district such reservation is less than the national average. At present, the overall percentages of SC/ST students admitted so far are 20 and 11 respectively. Girls accounted for 29 per cent.

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KENDRIYA VIDYALAYA

The scheme of Kendriya Vidyalayas was started in 1963-64, primarily for catering to the educational needs of the children of transferable Central Government employees including defence personnel, whose education was disrupted owing to transfer of the parents from one linguistic region to another and the resultant change in courses of study.

In 1965, the autonomous organisation, *Kendriya Vidyalaya Sangathan*, was established to handle the task of opening and managing Kendriya Vidyalayas. The organisation is wholly financed by the Government of India. Initially, 20 regimental schools, then functioning at places having large concentration of defence personnel, were taken over as Kendriya Vidyalayas during 1963-64. The number of Kendriya Vidyalayas at present is 771 in which 6,45,472 students are studying. The number of teachers sanctioned as on 30 April 1992 was 39,708. No Kendriya Vidyalaya has been sanctioned during the academic session 1992-93.

Kendriya Vidyalayas have also distinguished themselves in co-curricular activities including games and sports, out-door activities, environmental educational programmes and fine and performing arts. Kendriya Vidyalaya students have been winning prizes every year in international and national competitions, essay competitions held by the Department of Environment, Government of India, besides awards and prizes in local and regional competitions. Most of the Kendriya Vidyalayas run nature and adventure clubs which are affiliated to the World Wild Life Fund of India and the National Adventure Foundation of India, respectively. About 10,000 students are trained in rock-climbing and about 550 are sent for trekking to glaciers every year. *Kendriya Vidyalaya Sangathan* has been given a status of a state by the School Games Federation of India and also of the Bharat Scouts and Guides.

EDUCATIONAL TECHNOLOGY PROGRAMME

An Educational Technology Programme was started in the Central sector during the Fourth Plan period in 1972 for widening access to and bringing about qualitative improvement in education. Under the scheme a Centre for Educational Technology was set up in the NCERT and cent per cent assistance was provided to twentyone states for setting up of Educational Technology (ET) cells.

In view of the expansion of broadcasting facilities with the advent of INSAT and concommitant demand for educational software, the Ministry of Education decided to take on the responsibility of production of educational television programmes for relay through satellites. Accordingly, a scheme was prepared by the Ministry of Education for creating Educational Television (ETV) programme production facilities within the education sector on a decentralised basis by setting up Central Institute of Educational Technology (CIET) in the NCERT and State Institutes of Educational

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Technology (SIETS) in six states *viz.*, Andhra Pradesh, Bihar, Gujarat, Maharashtra, Orissa and Uttar Pradesh and strengthening of ET cells in other states.

To meet the objectives of the National Policy on Education, 1986, the Educational Technology Scheme was revised in 1987 with the broad objectives of strengthening of both ETV and audio programme production capabilities and providing wider access to the same by supplying one lakh colour television (CTV) sets and five lakh radio-cum-cassette players (RCCPs) to primary schools during the Seventh Plan.

Programme production has commenced in CIET and all the six SIETs. Infact, from the academic year 1988-89, responsibility for programme production which was hitherto being shared between CIET and Doordarshan on 50:50 basis has been taken over by CIET and SIETs. The satellite based ETV service presently provides educational programmes of 45 minutes duration in each of the five regional languages *viz.* Gujarati, Hindi, Marathi, Oriya and Telugu telecast on time-sharing basis. The programmes for children are telecast from Monday to Friday and for primary level teachers on every Saturday. There are separate programmes for the children in the age group of 5-8 and 9-11 years on each day.

The ETV programmes are relayed by all high and low power transmitters in the six INSAT states. The programmes in Hindi are relayed by the other five Hindi speaking states also, namely Haryana, Himachal Pradesh, Madhya Pradesh, Punjab and Rajasthan and the Union Territory of Chandigarh.

The CIET has produced 715 ETV programmes upto September 1992 and 914 language versions. It has also produced 450 capsules for the programme of mass orientation of teachers during the summers of 1986, 1987, 1988 and 1989. The NCERT has set up a committee to evolve modalities for involving outside producers to produce video films for CIET. As many as nine ETV video programmes commissioned to outside producers have been completed and another eight programmes are nearing completion.

IMPROVEMENT OF SCIENCE EDUCATION IN SCHOOLS

In order to improve the quality of science education and promote a scientific temper as envisaged in NPE, a Centrally sponsored scheme of Improvement of Science Education in Schools was started during the last quarter of 1987-88. Under this scheme, financial assistance is provided to states/union territories for provision of science kits to upper primary schools, upgrade and strengthen science laboratories in secondary and higher secondary schools, upgrade libraries in secondary and higher secondary schools, set up district resource centres for science education, development of instructional materials and training of science and mathematics teachers. It also provides assistance to voluntary organisation active in the field of science education for undertaking innovative projects and resource support activities in science education.

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With a view to identifying and nurturing talent in mathematics at the school level, the International Mathematical Olympiad (IMO) is held every year. India has been participating in this Olympiad since 1989. An eight-member delegation comprising six student contestants, a team leader and a deputy team leader participated in IMO held in Moscow during July 1992. India ranked 22nd out of 64 participating countries. The Indian team won one silver and four bronze medals.

ENVIRONMENTAL ORIENTATION TO SCHOOL EDUCATION

In order to promote integration of educational programmes in the schools with environmental conditions, as envisaged in the NPE a Centrally sponsored scheme of Environmental Orientation to School Education was started in 1988-89. Under the scheme, 100 per cent assistance is provided to the states, union territories and voluntary agencies on project basis. The project activities include review of curricular material preparation of text-books/instructional material/informative books/booklets/brochures/posters/audio-visual material on environment, organisation of seminars for creating environmental consciousness and orientation of teachers. Voluntary organisations are assisted for taking up of various kinds of experimental and innovative programmes in this field.

COMPUTER EDUCATION IN SCHOOL

A pilot project on Computer Literacy and Studies in Schools (CLASS) was initiated in 1984-85 in 248 selected secondary/higher secondary schools jointly by the Department of Electronics and the Department of Education to acquaint students and teachers with the range of computer applications and its potential as a learning medium. Till 1989-90, 2,598 schools were covered under the project. 61 resource centres were set up to train school teachers and provide logistic support to the participating schools. Installation of hardware and its maintenance continued to be the responsibility of Computer Maintenance Corporation (CMC). NCERT continued as the nodal agency for software development, academic support and organisation of teachers training. The Steering Committee for the project was jointly headed by the secretaries of the Department of Electronics and the Department of Education. Upto 1986-87, the schools received a set of two BBC micros, which was increased to five from 1987-88. Since the last financial year, a decision has been taken to provide an additional three BBC micros to 1,249 schools which have so far only two computers each. The evaluation of the project was done in 1986 by the Space Application Centre, Ahmadabad.

In persuance of the objectives laid down in the NPE, an expanded programme was prepared in 1987-88 to cover 13,000 higher secondary schools all over the country. However, due to paucity of funds this was not finalised. The project is being reviewed for further expansion.

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NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING (NCERT)

The National Council of Educational Research and Training (NCERT) was established in September 1961 in New Delhi as an autonomous body. Qualitative improvement and excellence in school education and teacher education are some of its major objectives. To achieve them, the NCERT undertakes programmes related to research, development, training, extension and dissemination of educational information through its constituent departments — the CIET, the Regional Colleges of Education at Ajmer, Bhopal, Bhubaneswar and Mysore and 17 field offices located all over the country.

The NCERT continued to coordinate and monitor activities related to the UNICEF - assisted projects in elementary and non-formal education and UNFPA - assisted National Population Education Project (school and non-formal education). The NCERT maintains effective liaison with state education authorities and state level institutions for providing academic inputs to school education system.

During 1992-93, major achievements of NCERT were directed towards Early Childhood Care and Education (ECCE), Universalisation of Elementary Education (UEE), Minimum Levels of Learning (MLL), orientation of content and process of education at the school stage, improvement of science education in school, computer literacy, vocationalisation of education, teacher education, education of SCs/STs and minorities, education for women's equality, education of the disabled children, utilisation of educational technology, educational survey and data processing, National Talent Search Scholarship, promotion of educational research and publication of text-books for CBSE affiliated schools in the country.

NCERT developes curricula, syllabi and prepare text books for classes I-XII. The syllabi prepared by the NCERT form the basis for prescription of scheme of studies by Central Board of Secondary Education (CBSE) for the students of schools affiliated to the Board. The syllabi and text books so prepared by NCERT are given to state/UT agencies for use in their schools after adoption/adaptation. It also develops instructional material for childhood education and training packages for teacher educators and supervisory personnel. NCERT organises Jawaharlal Nehru National Science Exhibition every year in which a large number of school students from all over the country participate. The Council produces science kits for the use of school students. It prepares comprehensive guidelines for curriculum evaluation and school-industry linkages as well as for pre-service and in-service education of teacher on vocationalisation of education. Training courses for the officials involved in the Integrated Education Programme for Disabled Children are also conducted by the NCERT.

UNIVERSITY AND HIGHER EDUCATION

Higher education is imparted through 149 universities in the country. Of these, there are ten Central universities and the remaining are functioning

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under the state Acts. Total number of colleges in the country is 7,513. Besides, there are 31 institutions declared as deemed-to-be universities under the University Grants Commission Act, 1956. Present enrolment of students is 46.11 lakh while the number of teachers is 2.76 lakh.

SPECIAL RESEARCH ORGANISATIONS

Indian Council of Historical Research, New Delhi, set up in 1972, enunciates and implements a national policy on historical research and encourages scienctific writing of history. It operates research projects, provides financial support of research projects by individual scholars, awards fellowships and undertakes publication and translation work.

Indian Council of Philosophical Research, which started functioning from 1981 with offices in New Delhi and Lucknow, reviews the progress of research in philosophy from time to time, sponsors or assists projects of programmes of research in philosophy, gives financial assistance to institutions and individuals to conduct research in philosophy and allied disciplines.

Indian Institute of Advanced Study, Shimla, set up in 1965, is a residential centre for advanced research in humanities, social sciences and natural sciences. It is a community of scholars engaged in exploring new frontiers of knowledge aimed at making major conceptual development and offering interdisciplinary perspectives on questions of contemporary relevance.

Indian Council of Social Science Research, New Delhi, is an autonomous body for promoting and coordinating social science research. Its main functions are to review the progress of social science research, give advice on research activities in government or outside, sponsor research programmes and give grants to institutions and individuals for research in social sciences.

UNIVERSITY GRANTS COMMISSION

Coordination and determination of standards in higher education is a subject in the Union List and, hence, a special responsibility of the Central Government. This responsibility is discharged mainly through University Grants Commission (UGC), which was established in 1956 under an Act of Parliament to take measures for promotion and coordination of university education and determination and maintenance of standards in teaching, examination and research in universities. To fulfil its objectives, the Commission can enquire, among other things, into financial needs of universities, allocate and disburse grants to them; establish and maintain common services and facilities, recommend measures for improvement of university education and give advice on allocation of grants and establishment of new universities. UGC has approved 102 colleges for autonomous status —16 in Andhra Pradesh, 44 in Tamil Nadu, 28 in Madhya Pradesh, five each in Rajasthan and Orissa, two each in Gujarat and Uttar Pradesh.

Enforcement Advisory Council for strengthening and streamlining the enforcement of copyright in all the states/union territories and to educate both the public and enforcement authorities regarding the criminality of

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copyright piracy and the cultural and economic importance of effective protection of copyright. The functions of the Council are to review the progress of enforcement of the Copyright Act periodically and to advise the Government regarding measures for improving the enforcement of the Copyright Act.

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

Indira Gandhi National Open University (IGNOU) was established by an Act of Parliament in September 1985 for the introduction and promotion of open university and distance education systems in the educational pattern of the country and for the coordination and determination of standards in such systems. The major objectives of the University include widening of access to higher education by providing opportunities to larger segments of the population, particularly the disadvantaged groups, organising programmes of continuing education and initiating special programmes of higher education for specific target groups like women, people living in backward regions, hilly areas, etc.

The IGNOU provides an innovative system of university level education, flexible and open in regard to methods and pace of learning, combination of courses, eligibility for enrolment, age of entry, methods of evaluation, etc. The University has adopted an integrated multi-media instructional strategy consisting of printed materials and audio-video aids, supported by counselling sessions at a network of study centres throughout the country. The evaluation system followed by the University consists of both continuous evaluation as well as term-end examinations.

The IGNOU introduced its academic programmes in 1987 and has so far launched 21 programmes. These include a certificate course in guidance (for primary school teachers), food and nutrition (in seven languages) and rural development, the preparatory programme for the bachelor's degree, diploma programmes in management, rural development, higher education, distance education, creative writing in English and Hindi, computers in office management and operations management; the bachelor's degree programmes in arts/science/commerce and library and information sciences as well as the master's degree in business administration and distance education.

The total number of students registered for various programmes of study in the IGNOU during 1992-93 is over 75,000. The University has established an extensive student support services network consisting of 16 regional centres and 214 study centres situated in different parts of the country. A Distance Education Council (DEC) has been established by the University as a statutory authority under the IGNOU Act for performance of its function as an apex body for coordination and determination of standards in Distance Education. DEC have formulated guidelines for providing support to state open universities during the Eighth Plan.

Doordarshan commenced telecast of IGNOU's programmes in May 1991. The Bombay and Hyderabad stations of the All India Radio started

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broadcasting selected audio programmes of the IGNOU from early 1992. At present, there are five other open universities functioning in the country. These are the B.R. Ambedkar Open University at Hyderabad, the Kota Open University at Kota, Rajasthan, Nalanda Open University, Bihar, Yashwant Rao Chavan Maharashtra Open University at Nasik, Maharashtra and the Madhya Pradesh Bhoj Vishwavidyalaya (MPBV).

TECHNICAL AND MANAGEMENT EDUCATION

Technical education is one of the most crucial components of human resource development with great potential for adding value to products and services, for contributing to the national economy. In recognition of the importance of this sector, successive Five - Year Plans have laid great emphasis on the development of technical education. During the past four decades, there has been a phenomenal expansion of technical education sector in the country. Today, there are over 200 recognised technical education institutions at the first degree level and about 500 polytechnics at the diploma level with annual admission capacities of 40,000 and 80,000 students respectively. Facilities for post-graduate studies and research work (Ph.D.level) have also been created for about 10,000 scholars.

Recognising the need for revamping of the technician education system, the Government has launched a massive project to be implemented in two phases with the assistance of the World Bank Group to enable the state governments to upgrade their polytechnics in capacity, quality and efficiency. The project estimated to cost over Rs 1,650 crore including World Bank credit/loan assistance of more than half a billion US dollars over the period 1990-1999 covers more than 500 polytechnics approved/recognised by the All India Council for Technical Education in 16 states and one union territory. Both phases of the project are currently under implementation. The first phase covering polytechnics in Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh has become operational from 5 December 1990 and the second phase with similar objectives and covering polytechnics in Andhra Pradesh, Assam, Haryana, Himachal Pradesh, Maharashtra, Punjab, Tamil Nadu and West Bengal and the Union Territory of Delhi from 29 January 1992. Recently, the Union Territory of Pondicherry has been included in the second phase. Gradually, almost all states and UTs are proposed to be covered for bank assistance under the flexibility built into the two phases of the project. The project is being implemented by the participating state governments under the overall guidance, support and monitoring by the Department of Education, Ministry of Human Resource Development.

LITERACY

According to the 1991 census, the national literacy rate for the population aged seven years and above, increased from 43.56 per cent in 1981 to 52.21 per cent in 1991 registering an increase by 8.65 percentage points. While the male literacy increased by 13.10 per cent, the female literacy rate

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increased by 6.45 per cent. The number of literates (aged seven and above) in 1991 at 3,593 lakh compares very well with the number of literates at 2,357 lakh in 1981. The number of illiterates in 1991 was 3,289 lakh which is a marginal increase from 3,053 lakh in 1981. The increase in the number of literates in 1991 over 1981 was 1,236 lakh whereas the corresponding increase in the number of illiterates was 236 lakh only. Kerala (82.8 per-cent) tops the literacy rate followed by Mizoram (82.27 per cent), Lakshad-weep (81.78 per cent) and Chandigarh (77.81 per cent). At the end of the ladder are Bihar (38.48 per cent), Rajasthan (38.55 per cent) and Dadra and Nagar Haveli (40.71 per cent). The increase in female literacy rate has been very significant in the states/union territory of Sikkim (19.29 per cent), Lakshadweep (17.59 per cent), Nagaland (14.45 per cent), Daman and Diu (12.90 per cent), Haryana (13.57 per cent), Manipur (13 per cent), Andaman and Nicobar Islands (12.26 per cent), Pondicherry (12.63 per cent), Tripura (11.65 per cent), and Kerala (10.47 per cent). The literacy rate is above the all India level of 52.21 per cent in case of 22 states/UTs but eight states *viz.* Bihar, Rajasthan, Arunachal Pradesh, Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Meghalaya, Orissa and Union Territory of Dadra and Nagar Haveli are still below the threshold level of literacy i.e. 50 per cent. All these states/UTs except Meghalaya are also below the all India level in case of female literacy.

ADULT EDUCATION

The National Literacy Mission (NLM) was launched in 1988 with the objective of imparting functional literacy to 800 lakh adult illiterates in the age-group 15-35 by 1995. The implementation of programmes under the NLM has showed that eradication of illiteracy is not a utopian idea but possible, feasible and achievable. The most important development that has taken place under the NLM is the near ascendancy of the campaign mode in the adult education programmes in the country. After experimenting with successive number of alternative models of adult education programmes we have finally settled down to one which has given us hope and faith that literacy can be overcome in a time bound manner with planned and coordinated efforts and with mobilisation of people belonging to all sections of the society.

Campaigns for total literacy constitute the major thrust and initiative in the Mission, they also constitute the principle strategy. In the heels of success of Ernakulam and Kerala experiments for achieving full literacy, these campaigns for total literacy have generated certain characteristic features which make them unique and distinguish them from other programmes. They are area specific, time-bound, voluntary-based, cost-effective and outcome-oriented. Total Literacy Campaigns have been launched in 189 districts of the country covering over 430 lakh illiterate persons. Sixty four districts have commenced post literacy campaigns.

The thrust in all programmes of adult education is now on adoption of area approach, continuous environment building for literacy through

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Jathas, street plays, *nukkad nataks*, TV, radio, newspapers, folk art forms etc. and use of motivation oriented teaching/learning materials produced under the new technique of Improved Pace and Content of Learning (IPCL).

NATIONAL POPULATION EDUCATION PROJECT

The objective of inculcating the message of small family norms and other population related issues in the minds of school and college students and the clientele of adult and non-formal education is being achieved through National Population Education Project. The National Population Education Programme is now being implemented through three projects of School and Non-formal Education, Higher Education and Adult Education.

Since its inception in 1980, National Population Education Project (NPEP) has covered much ground towards achieving its main objective of institutionalising population education in the school education system. During the second cycle (1986-90), the main focus has been on consolidation of project's multidimensional activities and further expansion of its network. The project is currently running in 29 states/UTs. During the Seventh Plan, it is proposed to direct substantially and systematically the NPEP activities towards the non-formal sector.

SCHOLARSHIPS

The Department of Education funds several scholarship/fellowship programmes for Indian students for higher education including some offered by other governments. These include the National Scholarship Scheme, a special coaching scheme for scheduled castes and scheduled tribes students, a scheme of scholarships to help students of non-Hindi speaking states studying Hindi, research scholarships for Indian classical languages and scholarships to enable talented rural children to continue secondary education. These programmes are administered through the state governments. A new programme of prestigious fellowships for Post-graduate studies in India and abroad named Jawaharlal Nehru Fellowships has recently been introduced.

Scholarships for advanced or specialised studies are offered under the provisions of cultural exchange programmes, bilateral agreements, Commonwealth scholarships/fellowships plan and adhoc scholarship offers received from different countries. These scholarships are mostly for Ph.D (Doctoral) and Post-doctoral specialisation for which the minimum eligibility requirement is a Masters degree. During 1992-93, 13 selected candidates went to China, 13 to Japan, 49 to UK/Canada and 36 to other countries.

BOOKS

NATIONAL BOOK TRUST

The National Book Trust (NBT), India, an autonomous organisation under the Department of Education, Ministry of Human Resource

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Development, plays an important role in book promotion programmes. The National Book Trust publishes low priced books on a variety of subjects including physical environment and culture of India, folklore, popular science, biographies and books for children, adults and neo-literates. Publishing translations of significant creative writing in various Indian languages is a major activity. The Trust has published over 6,000 titles in 13 languages.

The NBT subsidises publication of economically priced books for higher education. Besides subsidy to the publisher, the Trust pays an attractive royalty directly to the author. Under this scheme, the NBT has subsidised about 800 titles. The Trust also provides financial assistance to private publishers and voluntary agencies for producing quality low-priced books for children, neo-literates and school drop-outs.

NBT organises book fairs, festivals and exhibitions, seminars, symposia and workshops to promote interaction amongst readers, writers, intellectuals, publishers, booksellers, etc. During the year 1992-93, the Trust has organised children's book fairs at Guwahati (10-18 October 1992) and New Delhi (2-10 January 1993); book festivals at Bhubaneswar (31 October -8 November 1992) and Vishakhapatnam (28 November-6 December 1992); and the National Book Fair at Bangalore (30 January - 7 February 1993).

Since 1989, the Trust has been promoting the celebration of National Book Week on all-India scale. The Trust has taken up pilot projects for establishing Readers' Clubs in schools of Bangalore, Guwahati and Bhubaneswar. On behalf of the Ministry of Human Resource Development, the National Book Trust participates in various international book fairs and exhibitions and puts up exhibits of contemporary Indian books.

IMPORT POLICY FOR BOOKS

Under the new policy announced by the Ministry of Commerce with effect from 1 April 1992, any person/organisation is free to import books on educational, scientific and technical subjects without any restrictions.

COPYRIGHT

Copyright protection is governed by the Indian Copyright Act, 1957. The Copyright Act has been amended thrice in 1983, 1984 and lastly in 1992 to extend the term of Copyright from 50-60 years. A comprehensive review of the Act has been made and two Bills — the Copyright (Second Amendment) Bill, 1992 and the Copyright Cess Bill, 1992 were introduced in Lok Sabha in July 1992 to amend the Act further.

RAJA RAMMOHAN ROY NATIONAL AGENCY FOR ISBN

The International Standard Book Numbering System (ISBN) is an international system by which a distinct identifying number is assigned to each book. The ISBN system introduced in 1985 is still in its infancy in India but is already proving useful to the book trade, libraries, information systems

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and research scholars. Since 1985, more than 1,700 publishers have been registered under the system. The National Agency also brings out National Catalogue of ISBN titles annually.

PROMOTION OF LANGUAGES

The Government encourages development of all Indian languages including classical, modern and tribal. Its policy lays emphasis on training of teachers in relation to adoption of the three-language formula and production of university-level text books with a view to facilitating media switch over from English to regional languages. In order to assist non-Hindi speaking states/union territories to effectively implement the three-language formula, support for provision on facilities for teaching of Hindi in these states/UTs is provided by sanctioning financial assistance for appointment of Hindi teachers in schools and for establishment of Hindi teachers training colleges in these states/UTs, under a Centrally sponsored scheme. The grant-in-aid is provided mainly to assist the consolidation and further development of Hindi teacher training colleges in non-Hindi speaking states/union territories and to a limited extent, to assist the setting up of a new institution in such areas which are in need of such assistance. Assistance is also given to voluntary organisations for enabling them to hold Hindi teaching classes, conducting research on methodology of its teaching and providing Hindi books to various organisations. Various schemes are in operation to promote and develop tribal, classical, modern Indian languages and prepare and publish books, dictionaries, research and instructional material besides training of teachers in Hindi. Through the *Kendriya Hindi Sansthan*, Agra, the Government of India promotes development of improved methodology for teaching Hindi to the non-Hindi speaking students. Central Hindi Directorate runs programmes relating to purchase and publication of books and their free distribution to non-Hindi speaking states and to the Indian missions.

The Commission for Scientific and Technical Terminology, New Delhi, prepares and publishes definitional dictionaries and terminology in various disciplines and Pan-Indian terminology. Hindi-English glossaries in basic sciences, humanities, social sciences and applied sciences, university level text books in agriculture and engineering and other subjects are also published. Fifty scholarships are awarded every year to foreign students for studying Hindi in *Kendriya Hindi Sansthan*, Agra.

MODERN INDIAN LANGUAGES

Financial assistance is given to voluntary organisations and individuals to bring out publications like encyclopaedias, dictionaries, books of knowledge, original writing on linguistic, literary, indological, social anthropological and cultural themes, critical editions of old manuscripts, etc., for the development of modern Indian languages. Grants are also given for holding literary conferences, seminars and exhibitions besides, purchasing copies of printed publications. States are given special help for

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the production of university level books in the regional languages. The Bureau for Promotion of Urdu was set up in 1969. Apart from working as a secretariat to the Taraqqi-e-Urdu Board which advises the Government on development of Urdu, it also develops educational literature in Urdu. It has established 39 calligraphy centres where training is given to students in *Kitabat*.

Government also provides facilities for study of languages other than mother tongue. For this, the Central Institute of Indian Languages (CIIL), Mysore, conducts research in the areas of language analysis, language pedagogy, language technology and language use. Study of tribal languages is one of its important functions. It runs six regional language centres at Bhubaneshwar, Mysore, Patiala, Pune, Solan and Lucknow to help meet the demand for trained teachers to implement the three-language formula and one extension centre at Guwahati to do research for development of tribal languages of north-eastern region.

ENGLISH AND FOREIGN LANGUAGES

The Central Institute of English and Foreign Languages (CIEFL), Hyderabad, set up as an autonomous body in 1958 is engaged in bringing out qualitative improvement in teaching of English. Subsequently, teaching of major foreign languages *viz.* Russian, German, French and Arabic and their literatures was also included in its activities. In 1973 it was declared to be an institution of higher learning deemed-to-be a university. It has two regional centres at Shillong and Lucknow.

Financial assistances is also provided to states for setting up CIEFL's district centres for English with a view to improving the standard of English language, teaching and learning. These centres aim at imparting training to teachers of English in their areas through orientation courses. Under another scheme, financial assistance is given to regional and state institutes of English for strengthening their programmes of training with respect to improving standard of English language teaching.

SANSKRIT AND OTHER CLASSICAL LANGUAGES

There are many schemes for propagation, popularisation and development of Sanskrit and other classical languages like Arabic and Persian. These include schemes for financial assistance to state governments and voluntary Sanskrit organisations, development of Sanskrit institutions run by voluntary organisations into *Adarsh Sanskrit Pathshalas*, for incentives to retired scholars as *Shastra Chudamani* pandits, for publication of original writings of contemporary authors, editing and publication of rare manuscripts and catalogues of manuscripts, reprinting of important out-of-print Sanskrit texts, promotion of oral Vedic tradition, vocational training to products of *Sanskrit Pathshalas*, national awards to eminent Sanskrit, Arabic and Persian scholars and preparation/publication of Sanskrit dictionaries.

Registered organisations engaged in the development and propagation of Sanskrit are given recurring and non-recurring grants for salary of

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teachers, scholarships to students, construction and repair of buildings, library books, research projects etc., upto 75 per cent of the approved expenditure. About 700 voluntary institutions conducting courses on traditional Sanskrit education and about 200 institutions working in the field of propagation and promotion of Arabic/Persian are benefitted under this scheme every year. Institutions having potential for greater development are identified and brought under the scheme of *Adarsh Sanskrit Mahavidyalayas* and *Shodh Sansthans*. At present, 16 such Mahavidyalayas and Shodh Sansthans are being assisted. Under the scheme of Certificate of Honour to Sanskrit, Arabic and Persian scholars, 15 eminent Sanskrit scholars and three each in Arabic and Persian are honoured by the President every year. They are also given a grant of Rs 10,000 per year for life.

Department of Education also conducts an all-India Vedic Convention (through R.V.V.P.) and an all-India Sanskrit elocution contest every year where scholars in different *Shastras* and a team of eight contestants from all states are invited with a view to identifying the rare *Veda Shakhas* and their repositories, devising ways and means for preserving the oral traditions and encouraging extempore speech on classical subjects. As a special measure to preserve oral tradition of Vedic studies, a scheme was introduced in 1978 under which each *Swadhyayin* is expected to train two students each below 12 years, one of them being his own son or near relative in a particular *Veda Shakha*. The scholar gets an honorarium of Rs 1, 250 and the student Rs 175 per month. In all, 21 such units are receiving assistance. Seven of them were set up after the Vedic convention held in Indore in November 1987. *Rashtriya Veda Vidya Pratishthan* has been set up with the objective of preserving and developing all aspects of Vedic studies. For this, the Pratishan undertakes various activities such as supporting traditional Vedic institutions and scholars by providing fellowships, scholarships etc. Similarly, there are 26 institutions which are given 95 per cent grant for popularising Vedic education. Government is also providing financial assistance to eight Veda units which are engaged in the preservation of oral tradition of Vedic recitation.

Under *Shastra Chudamani* scheme, young scholars are given in-depth coaching in *Kendriya Vidyapeethas/Adarsh Sanskrit Mahavidyalayas* etc. in various disciplines by utilising services of eminent elderly scholars. These scholars are appointed on a monthly honorarium of Rs 1,000.

Rashtriya Sanskrit Sansthan, an autonomous organisation under the Ministry with its headquarters at Delhi, excercises academic and administrative control over seven *Kendriya Sanskrit Vidyapeethas* at Jammu, Allahabad, Guruvayoor, Puri, Jaipur, Lucknow and Sringeri where Sanskrit education in traditional Shastras and research in various fields is conducted. Vidyapeethas of Delhi and Tirupati, were declared deemed-to-be universities in 1987. Tha Sansthan also conducts examination from *Prathma* to *Vidyayaridhi* (Ph.D) and *Vachaspati* (D. Litt.) and in addition to its own institutions over 50 other institutions all over the country are affiliated to it.

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Under the Centrally sponsored scheme of Development of Sanskrit 100 per cent grant is given to the state governments/UTs for (a) financial assistance upto Rs 4,000 per annum to eminent Sanskrit scholars in indigent circumstances; (b) for appointment of teachers for teaching selected modern subjects in the traditional *Sanskrit Pathshalas*; (c) for providing facilities for teaching Sanskrit in high and higer secondary schools; (d) for scholarships to students studying Sanskrit in order to attract good students in IX to XII classes and (e) for their own schemes for promotion of Sanskrit.

RESOURCES FOR EDUCATION

Promotion of quality and equity are no less resource initiative than quantitative expansion of institutions. The budgetary outlays on education, of the Centre and states, had steadily increased from 1.2 per cent of GNP in 1950-51 to 3.5 per cent in 1990-91.

MAHILA SAMAKHYA

A Central scheme *'Mahila Samakhya'* was launched in April 1989. This programme seeks to mobilise rural women for education through *Mahila Sanghas* in each of the village concerned. This is a Central scheme where full financial assistance is provided to Mahila Samakhya societies in Karnataka, Uttar Pradesh, Gujarat and Andhra Pradesh set up under the chairmanship of the concerned state Education Secretary. The Minister of Education in the state is the President of the Society. As an Indo-Dutch programme, it receives cent per cent assistance from the Government of Netherlands. Essentially, the programme revolves around Mahila Sanghas where women are mobilised around issues like access to health, education, water, information about development programmes, general information about their immediate environment, and above all, issues related to their personality and self-image in society. The programme tries to facilitate critical reflection and analysis which would encourage women to take active interest in issues that affect their daily life. The focus of the programme is on generating demand for education and introducing innovative educational inputs for pre-school, non-formal, adult and continuing education.

BIHAR EDUCATION PROJECT

The Bihar Education Project (BEP) is a programme of educational reconstruction for bringing about fundamental change in the education system in Bihar. As a comprehensive basic education project, it covers the elementary school system; the non-formal education system; early childhood care and education; women's education and development; and post literacy, continuing education and inculcation of basic skills for survival and general well being. It is a joint project of Central and state government which UNICEF is also assisting. The project is implemented

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through an autonomous state level society with the partnership of state government, the Centre, UNICEF, teachers representatives and NGOs active in the field. The Chief Minister is Chairman of the Society. The executive responsibility vests with the State Project Director. The project is currently under implementation in Ranchi, Rohtas, Chatra, Sitamarhi, Muzaffarpur, West Champaran and East Singhboom district.

LOK JUMBISH: PEOPLE'S MOVEMENT FOR EDUCATION FOR ALL

An innovative educational project called 'Lok Jumbish: People's Movement for Education for All, Rajasthan with assistance from Swedish International Development Authority (SIDA) has been taken up in Rajasthan. The basic objective of the project is to achieve education for all by the year 2000 through people's mobilisation and their participation. The project presupposes that creation of a people's movement would generate a stimulus for human development which, in turn, would lead to a basic socio-economic change. Lok Jumbish concentrates on primary education.

SHIKSHA KARMI PROJECT

The Shiksha Karmi Project is being implemented since 1987 in Rajasthan with the assistance from the Swedish International Development Authority (SIDA). Its aim is universalisation of primary education in selected remote and socio-economically backward villages of the state.

The project identifies teacher absenteeism as a major obstacle in achieving the objective of universalisation. It accordingly, envisages substitution of the primary school teacher in single teacher schools by a team of two locally resident educational workers called *'Shiksha Karmi'*.

UNESCO AND INTERNATIONAL COOPERATION

Since the inception of the United Nations Educational Scientific and Cultural Organisation (UNESCO), India has been in the forefront in promoting the ideals and objectives of the Organisation. The Indian National Commission for Cooperation with UNESCO set up in 1949 in compliance with Article 7 of the Constitution of UNESCO, is the apex advisory, executive, liaison, information and coordinating body at the national level. It has been playing an active role in UNESCO's work particularly in the formulation and execution of its programme in collaborating with national commissions of Asia and the Pacific region.

During 1991-92, India extended its cooperation to UNESCO and its regional offices through participation in numerous workshops, symposia and conferences, organising national, regional and inter-regional activities in the country in area of competence of UNESCO, arranging placement of UNESCO fellows in Indian institutions, implementing projects under the participation programme of UNESCO and administration of UNESCO Coupons scheme.

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EXTERNAL ACADEMIC RELATIONS

External academic relations both bilateral and multilateral perform a significant role in international diplomacy. With a view to deepen India's academic interaction with important countries, the educational component of the cultural exchange programmes and other bilateral arrangements is being explored to encourage studies regarding India and Indology in foreign universities. A dialogue has been established to concretise new ideas in this area with our missions in China, Pakistan, Japan, USA, Germany, Bhutan, France, etc.

UNESCO CLUBS AND ASSOCIATED SCHOOLS

The UNESCO clubs, constituted mainly in educational institutions, are voluntary bodies engaged in the promotion of aims and objectives of the Organisation. The associated schools are educational institutions which are directly linked with UNESCO Secretariat for participation in the Associated School Project for undertaking activities relating to education for international understanding, cooperation and peace. Thirty seven schools and teacher training institutions from India are enlisted with UNESCO under the project.

BORDER AREA DEVELOPMENT PROGRAMME (BADP)

Border Area Development Programme (BADP) is implemented in the border states of Gujarat, Jammu and Kashmir, Punjab and Rajasthan covering 18 border districts and 79 border blocks. Financial assistance was rendered to the states under this programme in all priority areas of education such as universalisation of elementary education, improvement of secondary education, vocational education, culture and sports besides establishment of ITIs and polytechnics.

EDUCATION OF WOMEN

Enrolment of girls as a ratio of total enrolment during 1991-92 is only 39 per cent at primary stage, 33 per cent at middle stage and 28 per cent at higher education stage. All out efforts were made during the period for improving girls/women's participation in education. Under the Scheme of Operation Blackboard, Government has provided assistance since 1987-88 for creation of 1,22,890 posts of primary school teachers mainly to be filled by women. According to the latest reports, 69,926 posts of teachers have been filled up of which 57.39 per cent are women teachers. Ninety per cent assistance was given for NFE centres meant for girls. The cumulative number of NFE centres for girls' is 82,000. The *'Mahila Samakhya'* (Education for Women's Equality) Project has been under implementation. By conscious action, admission of girls to the extent of 28.44 per cent in Navodaya Vidyalayas has been ensured. Special attention was given to enrolment of women in adult education centres. In the Total Literacy Campaigns

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(TLCs), the theme of empowerment of women is receiving special focus. The women learners under TLCs out number male learners.

EDUCATION OF SCHEDULED CASTES AND SCHEDULED TRIBES

The year 1990-91 was the centenary year of Dr B.R. Ambedkar. The National Committee which was set up under the chairmanship of the then Prime Minister, decided that the programmes for the development of SCs and STs would continue upto the year 1992-93. Department of Education has issued instructions to organisations under its control to take up programmes and activities for celebrating the birth centenary in a befitting manner and extend these activities to the current year also. The programme includes panel discussion, seminars, essay competitions, publications of Dr. Ambedkar's biography and anthology of his works, creation of chairs of Baba Sheb Dr B.R. Ambedkar, philosophy and thoughts in universities, inclusion of Baba Saheb's thoughts in the text books, etc.

The thrust on removal of disparities and equalisation of educational opportunities by catering to specific needs of SCs and STs continued. Under the schemes of 'Operation Blackboard', non-formal education, adult education, etc., states were advised to give high priority to selection of blocks which have large concentration of SCs and STs.

The revised Programme of Action (POA) 1992 prepared in pursuance of the modified National Policy on Education (NPE), 1986 provides for continuance of the existing education programmes for SCs and STs with stress on improving literacy, increasing enrolment and reducing drop-out rates among SCs/STs. The scheme of upgradation of merit of SC/ST students started in 1987-88 continued to be implemented through states/UTs. Under this scheme, remedial coaching is given to SCs and STs in classes IX-XII, and special coaching in classes XI and XII for preparing them for competitive examinations.

Other facilities like reservation of seats in educational institutions (15 per cent for SCs and 7.5 per cent for STs), relaxation in qualifying marks in entrance examinations, reservation in pre-matric scholarships, freeships in Kendriya Vidyalayas, reservation in university level research fellowships, research associateships, teacher fellowships, etc. were continued.

The Indian Institutes of Technology operate a scheme under which candidates belonging to SCs and STs, who fail in the Joint Entrance Examination by very slender margin of marks are given further training and admitted to relevant courses.

EDUCATION OF MINORITIES

Under 15 Point Programme, University Grants Commission continued to implement the scheme of providing assistance to universities and colleges for coaching students from educationally backward minorities. The scheme is being revamped. It will be expanded to cover minority concentration

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areas as well as non-minority concentration areas for remedial and enrichment coaching. One of the proposals under consideration is to get the minority students coached for the higher studies through reputed private coaching institutions as is being done in the case of SC/ST students. The programme of review of text-books from the point of view of communal harmony, secularism and national integration is being implemented by the National Council of Educational Research and Training (NCERT) and state governments. All the 41 minority concentration districts identified by the Programme of Action, (1986) have been covered by community polytechnics and their extension centres under 15-Point Programme.

The revised Programme of Action 1992 envisages several short, medium, and long term measures for the improvement of minorities' education. In pursuance of these programmes, a scheme of financial assistance to voluntary organisations for modernisation of *Madrasa* education has been prepared to encourage traditional institutions like *Madrasas* and *Maktabs* by giving financial assistance to introduce science, mathematics, social studies and modern Indian languages like Hindi and English.

Another new scheme of Area Intensive Programme for educationally backward minorities has also been prepared to provide assistance to state governments and voluntary organisations for taking up programmes for educationally backward minorities, not covered by the on-going programmes. The Eighth Five Year Plan provision for the scheme is Rs 16.27 crore.

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6 Cultural Activities

CULTURE of India which is composite in nature is essentially an expression of inner urges and cumulative beliefs of people gathered through centuries of experience. It is the perennial flow of this cultural stream which determines the nation's strength, character and capacity to survive as an integrated living reality despite heavy odds and its continuous march forward on the path of progress. Keeping this in view, preservation of cultural heritage, inculcation of art consciousness among people and promotion of high standards of creative and performing arts and dissemination of culture have been made part of the objectives of State policy.

The Central and state governments strive for promotion and dissemination of art and culture through national and regional academies of art, dance, drama, music and letters. Zonal cultural centres have been set up for projecting, preserving and sustaining cultural kinship that transcends territorial limits. In addition, Indira Gandhi National Centre for Arts has been set up at New Delhi as a resource centre and data base. All these institutions and Departments of Art and Culture are helped in their objective by media and voluntary agencies. Apart from this, some eminent persons in the field of fine arts are nominated by the President to the Rajya Sabha.

VISUAL ARTS

LALIT KALA AKADEMI

To promote and propogate understanding of Indian art both within and outside the country, the Government established Lalit Kala Akademi (National Academy of Fine Arts) at New Delhi. To decentralise its activities, the Akademi has now set up regional centres called Rashtriya Lalit Kala Kendra at Lucknow, Calcutta, Madras and Bhubaneshwar. The Akademi has also set up Community Artists Studio Complex with workshop facilities in painting, sculpture, print-making and ceramics in Garhi village at New Delhi. The workshops and all regional centres are headed by experts to give technical guidance and experience in these disciplines.

Since its inception, the Akademi organises national exhibition of contemporary Indian art with ten national awards or Rs 25,000 each and three to four special exhibitions every year in some concept involving known and eminent artists of India. The Akademi also organises Triennale India, the most significant international exhibition of contemporary art in this part of the world once in every three years, the last, Seventh Triennale was held in

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1991. The Akademi also organises a *Rashtriya Kala Mela* (national art fair) where artists from all over India present their work, the fifth Rashtriya Kala Mela was held in January 1993.

The Akademi also honours eminent artists and art historians every year by electing them as fellows of the Akademi. So far, 43 persons have been conferred with this fellowship. To propogate Indian art outside, the Akademi regularly participates in international bieennales/triennales abroad and organises exhibitions of works of art from other countries. To foster contacts with artists of other countries, it sponsors exchange of artists with other countries under the Cultural Exchange Programme of the Government of India.

The Lalit Kala Akademi gives recognition to art associations and extends financial assistance every year to these bodies and state akademies. The Akademi also gives scholarship to deserving young artists every year to work in the workshops of its regional centres. It also has a regular publication programme. It brings out monographs on the works of contemporary Indian artists in English and Hindi and books on contemporary, traditional, folk and tribal arts authored by eminent writers and art critics. It also publishes bi-annual art journals, *Lalit Kala Contemporary* and *Lalit Kala Ancient* in English and *Samkaleen Kala* in Hindi. Apart from these, it brings out large-size multi-colour reproductions of contemporary paintings and graphics from time to time. The Akademi has started a regular programme on research and documentation. Scholars are given financial assistance to carry out projects in contemporary folk, tribal and traditional arts. It has set up an Artists-Aid Fund to give financial assistance to ailing artists.

PERFORMING ARTS

MUSIC

Two main schools of classical music Hindustani and Carnatic continue to survive through oral tradition being passed on by teachers to disciples. This has led to the existance of family traditions called *gharanas* and *sampradayas*.

DANCE

Dance in India has an unbroken tradition of over 2,000 years. Its themes are derived from mythology, legends and classical literature, two main divisions being classical and folk. Classical dance forms are based on ancient dance discipline and have rigid rules of presentation. Important among them are *Bharata Natyam, Kathakali, Kathak, Manipuri, Kuchipudi* and *Odissi*. Bharta Natyam though derives its roots from Tamil Nadu has developed into an all India form, Kathakali is a dance form of Kerala and Kathak is a classical dance form revitalised as result of the fusion of Mughal influence with Indian culture. Manipur has contributed a delicate, lyrical style of dance, Manipuri, while Kuchipudi is a dance form owing its origin to Andhra Pradesh, and Odissi from Orissa, once practised as a temple dance,

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is today widely interpreted by artists. Folk and tribal dances are of numerous patterns.

Both classical and folk dance owe their present popularity to institutions like Sangeet Natak Akademi and training institutes and cultural organisations. The Akademi gives financial assistance to cultural institutions and awards fellowships to scholars, performers and teachers to promote advanced study and training in different forms of dance and music especially those which are rare.

THEATRE

Theatre in India is as old as her music and dance. Classical theatre survives only in some places. Folk theatre can be seen in its regional variants practically in every region. There are also professional theatres, which are mainly city-oriented. Besides, India has a rich tradition of puppet theatre, prevalent form being puppets, rod puppets, glove puppets and leather puppets (shadow theatre). There are several semi-professional and amateur theatre groups involved in staging plays in Indian languages and English.

SANGEET NATAK AKADEMI

Sangeet Natak Akademi, the national academy of music, dance and drama, was set up in 1953 to promote performing arts in collaboration with states and voluntary organisations. It seeks increased public appreciation of these art forms through sponsorship, research and dissemination. It holds seminars and festivals, presents awards to outstanding performing artistes, gives financial assistance for theatre productions, extends financial help to traditional teachers and grants scholarships to students. It operates a scheme of inter-state exchange of troupes to promote national and cultural integration through regional festivals and bringing rare art forms of the regions to the fore.

The Akademi has set up a special unit for surveying and documenting various theatrical, musical and dance forms in the country. Its disc and tape unit has the largest collection of Indian classical, folk and tribal music, dance and theatre items. The Sangeet Natak Akademi runs two zonal institutions for training in dance, Kathak Kendra, New Delhi and Jawaharlal Nehru Manipuri Dance Academy, Imphal. It gives subsidy for publication of books in various Indian languages and English on music, dance and drama.

NATIONAL SCHOOL OF DRAMA

The National School of Drama (NSD), a premier theatre institution, was established in 1959 by the Sangeet Natak Akademi. In 1975, the School was registered as an autonomous institution, fully financed by the Central Government. It imparts training in dramatics and propagates theatre in the country by teaching theory and practice of drama in a scientific way. It has directly or indirectly played a constructive role in improving the overall

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standard of plays being produced and techniques being used. The National School of Drama has organised theatre workshops and children's theatre training courses in several regions so as to make available training facilities to local theatre enthusiasts and to initiate training of the students in folk, traditional and regional theatre forms. Under its three year training programme, it awards scholarships to students and also provides one year fellowships. It conducts a three-year diploma course and provides advanced theatre training in dramatic literature, stage craft and production.

LITERARY ART

Rediscovery of ancient and medieval Indian literature and development of modern literature in major Indian languages and English mark literary activities of present-day India. A large number of literary periodicals and magazines, literary institutions and All India Radio have given impetus to the growth of modern Indian literature.

SAHITYA AKADEMI

Sahitya Akademi was set up by the Government on 12 March 1954, for the development of Indian literature and to set high literary standards, to foster and co-ordinate literary activities in all the Indian languages and to promote through them the cultural unity of the country. The Akademi recognised 22 languages in which its programmes are implemented, which include the 18 languages enumerated in the Constitution of India besides Maithili, Dogri, Rajasthani and English.

The main activities of the Sahitya Akademi are: popularising writers and language-literature beyond their language boundaries through translation, declaring literacy awards to books of outstanding literary merit, prizes for translations and offering fellowship honours, assessing literary trends and encouraging experiments in the Indian languages through its journals, encouraging younger generation of writers through its various workshops, grants to authors and other schemes. The Akademi has three regional offices at Bombay, Calcutta, Bangalore and an office at Madras which looks after the programme in the language of respective regions. It published 175 books including reprints in various Indian languages. The fifth volume of Encyclopaedia of Indian Literature is ready for publication. It maintains a library-cum-reading room at Rabindra Bhavan, New Delhi, with about 90,000 books and small reference libraries also function at its regional offices. In the international literary world, the Akademi cooperates with UNESCO and participates on bilateral basis with other countries.

FELLOWSHIP AND FINANCIAL ASSISTANCE

To provide financial support to outstanding artistes for creative work in various fields of performing, plastic and literary arts the following schemes are being implemented by Government.

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EMERITUS FELLOWSHIPS

The scheme of Emeritus Fellowships has been formulated to extend financial support to artistes who have achieved a high degree of excellence in their respective fields but have since retired from the profession to enable them to continue experimentation in the spirit of financial freedom. Nine fellowships are awarded every year for a period of two years. The rate of fellowships has since been enhanced from Rs 3,000 to Rs 5,000 per month with effect from 1 January 1993. In addition to this fellowship amount, Rs 10,000 as annual incidental grant per fellowship is also granted.

KUMAR GANDHARVA FELLOWSHIP

A fellowship in memory of Pt. Kumar Gandharv has been instituted from 1992-93. The fellowship is conferred to distinguished senior artistes in various fields every year.

SCHOLARSHIP TO YOUNG WORKERS

The scheme gives financial assistance to young artistes of outstanding promise for advanced training in the fields of music, dance, painting, sculpture, book illustration, design, etc. The duration of scholarship is two years and the value is Rs 1,000 per month, while the number of scholarship is 200 per year.

FINANCIAL ASSISTANCE

The scheme provides for financial assistance to persons distinguished in letters, arts, etc, who may be in indigent circumstances and are above 58 years of age and in certain cases, to their dependents who are left unprovided for. Under the scheme expenditure is shared by the Central and the respective state governments. The rate of financial assistance has been enhanced from Rs 1,000 to Rs 1,500 per month with effect from 1 January 1993.

FELLOWSHIPS TO OUTSTANDING ARTISTS IN PERFORMING LITERARY AND PLASTIC ARTS

The scheme provides for the award of Senior Fellowships of the value of Rs 3,000 per month and Junior Fellowships of the value of Rs 1,500 per month each. Fifty Senior Fellowships and 150 Junior Fellowships are awarded every year.

ARCHAEOLOGY

Established in 1861, the Archaeological Survey of India (ASI) conserves and preserves archaeological monuments and sites located in different parts of the country and maintains site museums which display antiquities mainly relating to the same site. It is also as an academic body entrusted with the task of promoting scholarship by way of explorations and excavations,

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epigraphical research, study of secular and religious architecture and scientific studies and investigations. With headquarters at New Delhi, ASI discharges its responsibilities through various circles and branches. The Institute of Archaeology at New Delhi functions as the training wing of the ASI wherein service officials and those from states and fresh university post-graduates are imparted extensive training in all aspects of archaeology leading to Post-Graduate Diploma in Archaeology. The Institute also organises short-term courses on conservation and preservation of monuments and sites, epigraphy and numismatics, administration and accounts.

As in previous years, the ASI conducted excavations in 1992 at various sites. Of these, important ones include Adam in Maharashtra with remains of Satvahana period; Bhaitbari in west Garo hills, (Meghalaya) showing an eight-armed early medieval Dholavira, and Golbai Sasan, a chalcolithic site, in Puri; Barabati fort and Lalitagiri in Cuttack (Orissa); Hampi, Bellary (Karnataka) with structural remains and waterchannels datable to Vijayanagara period, Kolhua at Vaishali (Bihar), an ancient capital of the Lichchhavis; Buddhist remains at Banjaria (UP), St. Augustine church in Goa; Anangpur in Faridabad (Haryana) with deposits comprising Acheulian tools and several palaeochannels of the Yamuna. The ASI also carried out explorations at a number of sites located in different parts of the country including exploration of sites on the west coast jointly with the Society for South Asian Studies of the UK and trial excavation at Sarnath.

Surveys, documentation and detailed study of ancient temples of the Paramaras in central India, Rajasthan and Gujarat and those of the Cholas in Karnataka, survey and documentation of buildings and wooden structures, houses, and monuments in and around Delhi and eastern Rajasthan were also carried out by ASI.

The epigraphy branch of the ASI copied and deciphered several inscriptions in Prakrit, Sanskrit, Dravidian languages as also in Persian and Arabic. These include painted inscriptions at Than, in Surendranagar district Gujarat; historical inscriptions in the Nilgiris in Tamil Nadu; brick inscription from Mathura and label inscriptions in Brahmi in the quarries of Chunar, Uttar Pradesh; twenty eight inscriptions in Kufic characters from Kavaratti in Lakshadweep and Baliapatnam in Cannanore district; two hundred inscriptions from Andhra Pradesh; four from village Damgarh, Allahabad, Uttar Pradesh and ninety-one court documents in Persian.

Among important conservation works undertaken by the ASI are: Taj Mahal, Jama Masjid, Rambagh, Roman Catholic cemetery, Akbar's tomb at Sikandra, Salabat Khan's tomb, Humayun's mosque, Agra forts, monuments at Fatehpur Sikri and Lucknow, Madan Mohan temple at Vrindavan, Makhudum Jahania tomb at Kanauj and Sarai and mosque at Khudaganj, Imambara of Asafud-Daula, Residency complex, Sadat Ali's Tomb and Murshid Ali tomb at Lucknow, forts at Kalinjar Jaunpur and Jhansi forts, excavated site at Sravasti Sringaverapur, Bahu-Begum tomb at Faizabad, Dhamekh Stupa at Sarnath, Kushinagar in Uttar Pradesh; caves

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at Ajanta, Ellora and Elephanta, fort at Daulatabad, in Maharashtra; churches at Velha Goa in Goa; a whole group of monuments at Lakkundi, and Hampi, Halebid, Sravanabelagola and Daria Daulat Bagh at Srirangapatnam, Karnataka; Buddhist caves at Bagh, Hoshangshah tomb at Mandu, Gwalior Khajuraho, Burhanpur, Chandari Sanchi, Gyaraspur, Bhojpur and Vidisha in Madhya Pradesh; monuments at Lalitagiri, Khandagiri, Vadaigiri, Bhubaneswar, Jagannatha temple at Puri in Orissa; Hazarduari Palace and Imambara at Murshidabad, temples at Bishnupur, Kalna, Nanur and Mayer Ghat at Belur in West Bengal; monasteries at Tabo Kangra fort at Kangra Temples at Baijnath Mandi, Chamba, and Chhatrari in Himachal Pradesh; Bhatinda Fort in Punjab; Sheikh Chaheli's tomb at Thanesar and Firuzshah Palace at Hissar in Haryana; Qutb Minar complex, Tughlaqabad fort, Purana Qila, Humayun's tomb, Jantar-Mantar, Jama Masjid, Red Fort complex, Hauz Khas, Sultan Ghari tomb, Kotla Firuzshah, Sher Shah Gate and Vijay Mandal in Delhi; Twang monastery in Arunachal Pradesh; Karenghat palace, Vishnu temple in Manipur; Dimapur ruins in Nagaland; monuments at Jayasagar Sibdol, Negheritting in district Goalpara, Sibsagar, Assam; monuments at Tadpatri, Chandragiri, Yaganti Alampur, Amaravati, Warangal, Upakashi, Golkonda Fort and Char Minar at Hyderabad, all in Andhra Pradesh; forts at Batner, Bharatpur, Kumbhalgarh, Jaisalmer, Ranthambhor and Chittaurgarh, monuments at Ajmer, Bhangarh at Alwar, Kolvi, Nilkantha all in Rajasthan; Clive's Building in Fort St. George at Madras, group of monuments at Kancheepuram, Dutch Fort and Cemetery, Madras, temple at Vyalur, Sircarperiyapalyam, fort and temple at Gingea, group of monuments at Mamallapuram, Brihadisvara temple at Gangaikondacholapuram, fort at Attur, Vellore in Tamil Nadu; St. Francis Church at Cochin; Sher Shah Suri's tomb at Sasaram, remains at Antichak, Nalanda, Kumrahar, Rohtas fort, Asokan Pillar at Lauriya-Nandangarh and Lauriya-Araraj Raja Vishalka-Garh, stupa at Nandangarh, ancestral house of Dr. Rajendra Prasad at Jerader in Bihar; Buddhist monastery at Alchi, Leh palace, stupa at Tisseru, Shey palace, temple at Billawer, Kiramchi, Old palace at Ramnagar, in Jammu and Kashmir; monuments at Patan, Pavagadh, Sejakpur Surat, Sarkhej, Bhuj Khed and Roda temples at Dwarka, Madheraj Jami Masjid at Junagadh, dockyard of Lothal, Jama Masjid at Dholka, in Gujarat; and monuments at Diu.

The science branch of the Survey carried out chemical treatment and preservation works at several places including the Shore temple at Mahabalipuram, temples at Kancheepuram, Gangaikondacholapuram and Brihadisvara temple at Thanjavur (Tamil Nadu); monuments at Daman; Rani-ki-Vav at Patan, monuments at Pavagarh and Sun temple at Modhera (Gujarat); Gomatesvara, Sravanabelgola and Tipu Sultan's palace in Bangalore (Karnataka); caves at Ajanta and Ellora, (Maharashtra); Sun temple at Konark, and Lingaraja temple at Bhubaneswar, Jagannatha temple at Puri (Orissa); forts at Jaisalmer and Ranthambhore, Deeg palace (Rajas-

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than), Taj Mahal at Agra, monuments at Fatepur Sikri and, monuments at Sarnath (Uttar Pradesh); Hazarduari palace of Murshidabad (West Bengal); Veerabhadraswami temple at Lepakshi (Andhra Pradesh); Red Fort and Humayun's tomb in Delhi; Dwarkadhish temple at Dwarka, Rao Lakha Chattri at Bhuj (Gujarat); Ramnagar Palace at Ramnagar (Jammu and Kashmir); Sanchi Stupa, Buddhist caves at Bagh and temples at Khajuraho (Madhya Pradesh).

The horticulture branch of the ASI maintains gardens among others at Taj Mahal and Rambagh at Agra, Akbar's Tomb, Sikandra, Residency at Lucknow, group of temples at Khajuraho Vijaymandal, Red Fort and Purana Qila in Delhi; Deeg palace; Share-ki-Masjid at Pavagarh, Hazira Tomb in Baroda, Nagarjunakonda, Golkonda Fort, (Andhra Pradesh); Gol Gumbaz at Bijapur, monuments at Hampi, Halebid, Pattadakal (Karnataka); Bibi-ka-Maqbara at Aurangabad (Maharashtra); Brihadishvara temple at Thanjavur, Shore temple at Mahabalipuram (Tamil Nadu); Hazarduari palace at Murshidabad (West Bengal); tomb of Sher Shah at Sasaram (Bihar); Raja-Rani temple and Chitrakirini temple at Bhubaneswar (Orissa) and excavated remains at Kumrahar and Nalanda in (Bihar). The ASI has been also engaged in the task of structural and chemical conservation at the temple complex at Abgjir Vat which is being funded by the Ministry of External Affairs. During the year the ASI published guide books on several archaelogical places, Part II under the Corpus Inscripionum Indicarum, Vol. VII; Temples of the Gangas of Karnataka under the Architectural Survey Series etc.

WORLD HERITAGE DAY AND WEEK

The World Heritage Day on 18 April 1992 and World Heritage Week from 19 to 25 November 1992, were calebrated.

MUSEUMS

Museums are repositories of our cultural heritage and are meant for acquisition, conservation and preservation of historical, technical and other materials against decay and for their transmission to posterity as records of history. They also serve as important audio-visual means of education. The development of museums in all their ramifications is considered important as they promote national integration and international understanding. Great emphasis is laid on the documentation of the existing collection in Government and private museums, preservation of the collections by using latest scientific aids and publication of the catalogue of the existing collection.

In the field of Indian art and archaeology, the Central Government has established the National Museum, New Delhi, the Indian Museum, Calcutta and the Salar Jung Museum, Hyderabad. The main activities of the National Museum are in the field of acquisition, exhibition, conservation, publication and education of objects of art. During 1992-93 number of

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exhibitions have been organised both in India and abroad. Vraj Art and Culture exhibition was organised in April 1992. A very prestigious exhibition entitled Classical Art Exhibition of SAARC countries was organised in October 1992 in the National Museum in collaboration with the ICCR. Two exhibitions, one from Bharat Kala Bhavan, BHU, Varanasi, to celebrate the birth centenary of Rai Krishna Das, a doyen in the field of Indian art and literature and the other one of Raja Ravi Verma's paintings from Thiruvananthapuram was held in the National Museum in April, 1993. The Museum organised the exhibition 'Palace of Gods' held in Germany under the aegies of Festival of India in Germany. Stone sculptures and bronzes were also lent by the National Museum for the exhibition entitled Art and Culture. Around 1492 'Expo Sivelle 92' held in Spain.

Indian Museum, Calcutta, also undertakes acquisition of objects of art and archaeology, and carries out educational and cultural activities. A survey and field collection operation was undertaken in Orissa and north eastern states with the objective of obtaining ethnographic specimens along with techno-socio and economic-cultural data. More than 190 objects have been acquired for art and anthropological session during 1992-93. Besides, photographic documentation of the art treasures was carried out. An exhibition on Pala-Sena sculptures was organised at Allahabad Museum during November 1992. An exhibition 'Roman Contact in India' was held during this period. The classical arts of Indian exhibition 'Palace of Gods' was inaugurated at the Orangeric of the Chariottenburg Palace Berlin on 6 March 1992 by Berlin's Senator for Culture Mr. Ulrich Rolof Momin. More than 1000 objects have been treated by Indian Museum.

The Salar Jung Museum-named after Salar Jung-III, Mir Yousuf Ali Khan, which is a museum of a national importance, has a very rare and important collection of more than 40,000 art objects, coming from different parts of the world. The construction of two new buildings commenced during this year. A new gallery of Tribal Art is being established by acquiring exhibits on tribal arts. In the Manuscripts Section, apart form the Persian and Arabic catalogues, the Museum undertakes the publications of research journal and other books. A proposal to publish a book on 'Masterpieces' of Salar Jung Museum was taken up during this year. With the introduction of the diploma course in Museology by the Osmania University, the Museum has become a Post Graduate Research Centre. Elocution, essay writing, drawing competitions were held in addition to periodical films shows and temporary exhibitions. For the benefit of amateur artisans training courses are conducted in local art and crafts.

The Allahabad Museum has got a rich collection of early sculptures, terracota seals and modern painting. Under educational activities, an art appreciation course was organised in the month June 1992, another short-term course was organised for local teachers, professionals and housewives; and a special programme of lectures was organised to mark the birth centenary celebrations of Dr A K Coomaraswamy on 22 August 1992. Under

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exhibitions a special exhibition of the works of eminent artists was organised in collaboration with the North-Central Zone Cultural Centre, Allahabad. A photographic exhibition on Masterpieces of Indian Art was organised in the Museum in August 1992. Three hundred sculptures and 75 miniature paintings in the Museum's collection were photo documented in colour slides and black and white. The objects conserved consisted one terracotta object, 10 stone sculptures and 225 pages of manuscripts and documents.

The National Museum Institute of History of Art, Conservation and Museology, New Delhi, a fully funded autonomous organisation has been given deemed-university status. The main objectives of the Institute are to impart education and training in the specified areas which are generally not covered by other universities in India. The Institute conducts post graduate and Ph. D courses in History of Art, Conservation and Museology. A few certificate courses related to Indian Art, Global Art and its appreciation are also conducted at the Institute. There are three Departments: (i) Department of History of Art, (ii) Department of Conservation of works of Art and (iii) Department of Museology.

The National Research Laboratory for Conservation of Cultural Property, Lucknow, a subordinate office under the Department of Culture was established in 1976 to carry out research in the methods of conservation, provide technical assistance to museum, archaeological departments and others. Research works in the paper research, bio-deterioration, stone research, wall paintings research, analytical research and in metal research divisions were carried out during 1992-93. Under conservation, 17 *thankas* were treated and eight are under treatment while miniature paintings were conserved. The Museum has restored three scroll paintings and 16 screen paintings. 300 pages of a book received from College of Material Management, Jabalpur were conserved, and the remaining three books are under treatment. Five bronze images belonging to Kerala State Archaeology were treated and restored. Three oil paintings of Raj Bhavan, Lucknow, State Museum, Lucknow (two) and four from Patna Museum were restored. Twenty two lithographs of Residency Archaeological Survey of India, Lucknow and two lithographs of Raj Bhavan, Nainital were treated, workshop on care and preservation of cultural heritage in the Budhist monasteries at Ladakh was organised during June 1992 for the benefit of Lamas and those who were incharge of collections. Documentation work in library and photo divisions were carried out.

The National council of Science Museum, Calcutta is primarily engaged in the task of popularising science and technology in urban and rural areas both among the students in particular and the masses in general, through a wide range of programmes. The Council administers and manages the Birla Industrial and Technological Museum at Calcutta, Visvesvaraya Industrial and Technological Museum at Bangalore, Nehru Science Centre at Bombay and National Science Centre, Delhi which in turn have their own

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institutional projects. The Council has also set up 14 regional and district science centres.

MARINE ARCHAEOLOGY

Marine Archaeology Unit undertook offshore survey of legendary city of Dwarka on Gujarat coast, supposed to have been built by Lord Krishna and subsequently, submerged under the sea. Underwater excavation in the ancient harbour seaward of temple of Sea God (Samudranarayana) brought to light a submerged structure of massive building blocks corroborating the findings of onshore excavation in which three temples (first-ninth century AD) and two townships tenth and fifteenth century BC were found destroyed by sea. Offshore exploration of Bet Dwarka, an island settlement off Port Okha, associated with Sri Krishna's legend, yielded conclusive evidence of the submergence of a 14th - 15th century BC town. A massive wall *in situ* in 3.6 metre water depth at high-tide is found built on a wave-cut bench. A unique late Indus Valley seal and an 'inscribed jar mentioning sea god and seeking his protection', were recovered.

Further excavation 600 m seaward of Dwarka brought to light a submerged stone-built jetty and triangular stone anchors with three holes closely resembling those found in Ugarit (Syria) and Kition (Cyprus) is 1300 BC level; Dwarka anchors also belong to the same period. Ancient city of Dwarka is found to have extended over two km upto Rupen. City of Bet Dwarka (Shankhodhara) was four km long as attested by the submerged walls *in situ* near Balapur Bay. It is now obvious that the Second Urbanisation in India took place during the 14th-15th century BC, a thousand years before the Achaemenid cities came into existence.

Excavation in the Arabian Sea, 1200 m seaward off the temple of Sea God brought to light remnants of four fortified sectors of the port confirming thereby that the ancient city of Dwarka was fortified as described in *Mahabharata*. It is termed as *Varidurga* (a fortress in water). The thermoluminescence date of pottery from a section of the wall in Bet Dwarka is 3,520 years before present. This date is corroborated by other archaeological evidence, such as stone anchors, seal, inscribed jar and pottery, fixes the date of Mahabharata also. Somnath another port of epic age is also excavated. Marine records of state and National Archives were examined and particulars of 200 shipwrecks in Indian waters were noted. Among them, 30 wrecks are of historical significance.

Underwater explorations and excavations were undertaken to search ancient Poompuhar, also known as Kaveripumpattinam, since 1991 in collaboration with the Department of Archaeology and Government of Tamil Nadu. Kaveripumpattinam, which is said to have been submerged by the sea was one of the well known capital cities of the Cholas. The most important findings of this year's expeditions are potteries of Megalithic Black and Red Ware, Red Ware, Grey Ware and a sherd of an amphora buried under the sediment about $1^1/_2$m at a water depth of 7-8 m off Poompuhar. The

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structure in three coarses found at a depth of 7 m revealed human settlement. The terracota, ring wells and brick structures noticed in the intertidal zone provided more information of human habitation ascribed to the beginning of Christian era.

Marine Archaeology Unit discovered a shipwreck four km off Mormugao Harbour in Goa. This steel-hulled ship, about 32 m long, is covered by sediment and efforts are being made to identify and excavate the vessel.

NATIONAL ARCHIVES OF INDIA

National Archives of India (NAI), known until Independence as Imperial Record Department was established on 11 March 1891. It is the official custodian of all non-current records of permanent value of the Government of India and its predecessor bodies. It is the premier organised record repository in Asia with its holding running over 30 km of linear shelf-space. The newly constructed annexe provides an additional shelf-space of nearly 40 km. National Archives of India is an attached office of the Department of Culture. It has three regional repositories at Bhopal, Jaipur and Pondicherry.

Major activities of the Department include: (i) accessioning of public records and making such records accessible to various government agencies and research scholars; (ii) preparations of reference-media; (iii) preservation and maintenance of records and conducting of scientific investigations for the said purpose; (iv) evolving records management programmes; (v) rendering technical assistance to inividuals and institutions in the field of conservation of records; (vi) imparting training in the field of archives administration, records management, reprography and repair and conservation of records, books and manuscripts at professional and sub-professional levels and (vii) creation and promotion of archival consciousness in the country by celebrating 'Archives Week' every year.

During 1992-93, 8,592 visits were made by scholars to the research room and library of the Department. Out of 365 scholars newly enrolled, 30 came from foreign countries. Search for specific information amongst the holdings of the National Archives was also undertaken on behalf of individuals/institutions.

Holdings of this Department were further enriched by acquisitions of following public/private records (i) one volume containing Resume of Operation of 25th Infantry Division (1947-71) received from Northern Command Headquarters; (ii) one volume containing original copy of Indus-Water Treaty (1960); (iii) 74 items comprising notes, articles, press clippings etc. pertaining to Gandhi ji in South Africa including copies of seven letters written by Gandhi ji to eminent personalities received from E.S. Reddy, New York; (iv) letter (3 February 1927) from Mohammad Ali to Rana Janga Bahadur, received from Jamia Millia Islamia, New Delhi; (v) 167 documents (1656-1908) comprising *parwanas bainamas, nishans, rubakars, qabul wasuls, chainamas, sanads* etc. pertaining to Pargana Batala,

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Suba Punjab and Pargana Dhar Sarkar Manda, Suba Malwa and (vi) 101 microfilm rolls of 'Panda Records' containing pilgrimage registers (in the form of *Bahis*) from the Genealogical Society of Utah, USA.

Keeping in view that records are of national importance, National Archives of India provides financial assistance to state archives, voluntary organisations and other custodial institutions so that the documentary heritage is preserved and archival science is promoted.

School of Archival Studies of the National Archives of India conducts one year diploma course in archival studies and a number of short term certificate courses.

As part of Archives Week celebrations, the National Archives of India organised an exhibition entitled "Archives and Quit India Movement" from 24 November 1992 to 2 January 1993, to mark the golden jubilee celebrations of the Quit India Movement. An open house programme "Heroes of 1857" was also organised on this occasion.

Significant publications brought out by the National Archives of India during 1992-93 includes; (i) The Indian Archives Volume XXXVIII Nos. 1 and 2; (ii) Guide to the Source of Asian History, Volume 3 and 2; (iii) 18th Report of Director General of Archives on the implementation of Archival Policy Resolution; (iv) Proceedings of Indian Historical Records Commission 52nd and 53rd Sessions; (v) Catalogue of Revenue Maps Vol. I and Vol. II (pts. I & II); (vi) Descriptive List of Miscellaneous Persian Documents, (1633-1867 AD) and (vii) Catalogue of Seals Vol.II.

MANUSCRIPT LIBRARIES

KHUDA BAKHSH ORIENTAL PUBLIC LIBRARY

Khuda Bakhsh Oriental Public Library, Patna established in 1891 has a rich collection of over 18,000 Arabic and Persian manuscripts and over 2,000 Mughal and Raipur paintings besides over 1,48,000 printed books and periodicals. The Library was declared an institution of national importance in 1969 by an Act of Parliament. It brings out a quarterly research journal. The Library has published critical editions of 44 rarities. More than 700 audio and 377 video tapes of eminent persons have been prepared.

TMSSM LIBRARY

Thanjavur Maharaja Serfoji's Sarasvati Mahal (TMSSM) Library, Thanjavur is one of the few medieval libraries in the world and is a majestic repository of culture built up by successive dynasties of Nayak and Maratha kings of Tanjore. It was made a public library in 1918 by the Madras Government and was registered on 9 July 1986 as a society under the Tamil Nadu Registration Act, 1975. It has a rare and rich collection of 44,777 manuscripts in Sanskrit, Marathi, Telugu and other languages, both the palmleaf and in paper. More than 35 volumes of descriptive catalogues for these manuscripts were brought out. Miniature paintings and colour

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drawings in its collection are very attractive which reflects the Tanjore School of Painting. Besides, it has 42,753 books in Indian languages covering various disciplines and a rare collection of about 4,500 books in European languages collected by Raja Serfoji (1778-1832). It also publishes books and a quarterly journal.

RAMPUR RAZA LIBRARY

The Rampur Raza Library housed in Hamid Manzil in the fort of Rampur is an autonomous body under the Ministry of Human Resource Development, Department of Culture, Government of India and was set up under the Rampur Raza Library Act, 1975. It has a collection of about 50,000 printed books and 15,000 manuscripts, besides a large number of miniature paintings and *Bhoj Patras* etc.

ASIATIC SOCIETY

The Asiatic Society, Calcutta was founded in 1784 by Sir William Jones (1746-1794), eminent Indologist with the objective of inquiring into history, antiquities, arts, science and literature of Asia. This institution proved to be the fountain-head of all literary and scientific activities in the country and patron of all Asiatic societies in the world. The Society has a rich collection of rare books, manuscripts, coins, old paintings, inscription and archival materials. It maintains a museum which includes an Ashokan rock edict, copper plates ranging in date from the third century BC to the eighth century and important documents for the study of Indian history and culture. The coin collection covers practically the whole range of Indian numismatics from the earliest issues to the latest. It brings out the Biboliothera India, which consists of a series of oriental texts in Sanskrit, Arabic, Persian, Bengali, Tibetan and other Asian languages and their translations.

Some other important manuscripts libraries are : Government Orient Library, Madras; Oriental Research Libraries at Pune and Vadodra; Sanskrit University Library, Varanasi; Visheshwaran and Vedic Research Institute Library, Hoshiarpur; and Maulana Azad Aligarh Muslim University Library, Aligarh. In addition, there are over 500 other libraries belonging to state government and private agencies which have thousands of manuscripts.

LIBRARIES

Libraries are the keepers of our history and culture. Development of library system is an important component of the scheme of non-formal and continuing education. Constitutionally, the subject 'libraries' is included in the State List. The Centre has jurisdiction only over libraries established by it and institution of national importance as declared by it. There are more than 60,000 libraries in the country.

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National Library, Calcutta serves as a permanent repository of all reading and information material produced in India as well as printed material written by Indians and concerning India written by foreigners, wherever published and in whatever language. Under the Delivery of Books Act 1954, the National Library is entitled to receive one copy of each publication published in the country. It is also a repository of the United Nations publications. It renders multi-faceted services and extends different types of bibliographical assistance to numerous readers and scholars, ministries and national and international organisations. Over twenty three lakh books, besides periodicals, maps, manuscripts, newspapers and microfilm/microfiche totalling several million items are housed in the Library. Invaluable and prestigious personal collections like Asutosh Collection, Jadunath Sarkar Collections, Buhar Collection and some others are in its possession.

The Central Reference Library, Calcutta is responsible for the compilation, publication and sale of Indian National Bibliography. This is a monthly/annual bibliography containing entries of current Indian publications in major Indian languages and in English received under the Delivery of Books Act, 1954. The Library also compiles and publishes Index Indiana, an annual index of selected articles appearing in current Indian periodicals.

The Delhi Public Library, established in 1951 with financial and technical assistance from the UNESCO, has since developed into metropolitan public library system consisting of a central library, a zonal library, 20 branches/sub-branches and community libraries, a braille library, 12 braille mobile service points, seven braille deposit stations, 31 resettlement colony libraries and reading rooms, three sports libraries, two hospital libraries, a prisoners library in Central Jail and a network of mobile services stations serving 86 areas and 23 deposit stations, all over the Union Territory of Delhi. The Raja Rammohan Rao Library Foundation, Calcutta, a non-statutory autonomous body, supports and promotes library services in general and public library services in particular in cooperation with states/UTs and voluntary agencies in the field.

COPYRIGHT LIBRARIES

Under the Delivery of Books and Newspapers (Public Libraries) Act 1954, four libraries are entitled to receive a copy of every new book and magazine published in the country. These are the National Library, Calcutta; Central Library, Bombay; Connemara Public Library, Madras and Delhi Public Library, Delhi.

There are also specialized libraries for researchers. Prominent among them are Nehru Memorial Museum and Library, New Delhi; Indian Council of World Affairs, New Delhi; Indian Statistical Institute, Calcutta; Gokhale Institute, Pune; Theosophical Society, Madras; National Council of Applied Economic Research, New Delhi and Indian Institute of Public Administration, New Delhi. Apart from these, some of the bigger universities also have sizable libraries.

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INSTITUTIONS OF TIBETAN AND BUDDHIST STUDIES

Indian scholars, many centuries ago took arduous journeys across the Himalayas to Tibet and with them they carried Indian philosophy and thought. Evolution to Tibetan thought and culture was consequence of this intention. After Independence, a number of institutions have been set up in the country for preservation of Tibetan culture, philosophy, literature etc. Government is also implementing a scheme of financial assistance to such organisations.

The Central Institute of Higher Tibetan Studies, Varanasi, an autonomous organisation fully financed by the Centre was established with the objective of preservation of Tibetan culture and tradition, restoration of ancient Indian literature preserved in Tibetan language and providing higher education in Buddhist studies to the border area students. The Institute prepares students for various courses. It has been given the status of deemed - to - be university with effect from April 1988. The Central Institute of Buddhist Studies, Leh was established in 1959 to train students in Buddhist philosophy, literature and arts. It is affiliated to Sampurananad Sanskrit Vishwa Vidyalaya, Varanasi.

The Sikkim Research Institute of Tibetology, Gangtok is an autonomous organisation set up for research and studies in Tibetology. The Institute has done significant work in promoting research in CHHO (Tibetan for Dharma) and associated subjects like iconography, medicine, astrology, history etc. It publishes a quarterly journal, a Bulletin of Tibetology. The Institute receives maintenance and development grants from the Government of India. Library of Tibetan work and Archives, Dharamsala acquires and preserves Tibetan books and manuscripts. The main activities of the library are to provide research facilities to run regular courses on Buddhist philosophy and Tibetan languages, classes on Tibetan traditional woodcarving and *thanka* painting etc.

ANTHROPOLOGICAL SURVEY OF INDIA

Anthropological Survey of India is a subordinate office under the Department of Culture, Ministry of Human Resource Development with its headquarters at Calcutta and seven regional centres and subregional centres scattered all over India and a camp office at New Delhi.

It was established in 1945 for advancement of scientific research in anthropology and allied disciplines. Among the scientific organisations of the country the Anthropological Survey of India occupies a unique position because of its collecting authentic empirical data covering the entire range of human variation, and culture. It conducts, bio-cultural investigation on Indian population, collects, preserve documents and maintains the ancient human remains for scientific research and collaborates with other organisations. The Anthropological Survey of India has launched the National Project 'People of India' during the Seventh Plan on a priority basis. This scheme seeks to generate ethnographical profile on all the com-

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munities of the country and to find out the linkage that bring them together. This project has achieved a commendable success and it is nearing completion.

INDIRA GANDHI RASHTRIYA MANAV SANGRAHALAYA

Indira Gandhi Rashtriya Manav Sangrahalaya, Bhopal, an autonomous organisation under the Department of Culture, Government of India, is dedicated to depiction of an integrated story of humankind. The outstanding feature of the Sangrahalaya developed in a picturesque 200 acres site is its outdoor complex with thematic open-air exhibitions.

It has already developed three open-air exhibitions depicting tribal habitat, life in coastal villages and heritage of Indian prehistoric rock-art through life-size exhibits in authentic environmental settings. Regular educational activities and live programmes related to folk life are conducted in the setting of these exhibitions. There is an indoor facility of periodical and special exhibition. The Sangrahalaya is also developing an indoor museum. The other programmes being carried out by this organisation are salvage of anthropological aspects of national heritage, research, projects and multi-media documentation of cultures.

Live demonstration of techniques, folk ways, folk and classical music, theatre are also organised peiodically the open-air settings.

EDUCATION AND CULTURE

Center for Cultural Resources and Training (CCRT) was set up in 1979 as an autonomous organisation fully financed by the Government. The Centre had taken over in 1970 the scheme 'Propagation of Culture' which was till then implemented by the University of Delhi. It's objective is to revitalize the education system by creating an understanding and awareness among students about the plurality of regional cultures of India and integrating this knowledge with school education. To fulfil its objectives, the Centre organises a number of training programmes for the benefit of students and teachers drawn from schools from states particularly those from rural areas. Main thrust is on linking education with culture and making students aware of the importance of culture in all developmental programmes. The training stresses on the role of culture in science and technology, housing, agriculture, medicine, etc. An important component of training is creating an awareness amongst students and teachers of their role in solving environmental pollution problems and conservation and preservation of natural and cultural heritage.

The programme lays emphasis on demonstration of innovative educational techniques in class-room situation for which the Centre invites a number of school students to work with teachers to try out methodologies for imparting cultural education. It also organises large youth camps in which school students all over the country meet, work together and learn the value of conservation and protection of India's rich heritage. The

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Centre is collecting resources in the form of slides, photographs, films and recordings on Indian arts and crafts so as to prepare cultural educational material for free distribution to schools.

CCRT implements the Cultural Talent Search Scholarship Scheme, which was taken over from the Department of Culture in 1982. The scheme provides scholarships to outstanding children in the age-group of 10 to 14 years studying either in recognised schools or belonging to families practising traditional performing or other arts to develop their talent in various cultural fields particularly in rare art forms. The scholarship continues till the age of 20 years or first year of university degree. The Centre also has a full-fledged department for evaluation of teachers' work after the training.

The evaluation and feedback helps the Centre to improve the content of training programmes and the educational materials on culture being prepared for schools. The Centre has also instituted the CCRT Teacher's Award which is given every year to selected teachers in recognition of the outstanding work done by them in the field of education and culture.

ZONAL CULTURAL CENTRES

Zonal cultural centres have been conceptualised with the aim of projecting cultural kinships transcending territorial bounds. The idea is to arouse and deepen awareness of the local cultures and how these merge into zonal identities and eventually into the rich diversity of India's composite culture. Besides, these are also intended to document, preserve and to sustain the vanishing art forms and oral traditions. The involvement of artists and creative people has been inbuilt in the set-up through a system of autonomous governance.

The seven zonal cultural centres established under the new scheme are (i) North-Zone Cultural Centre, Patiala; (ii) East Zone Cultural Centre, Santiniketan; (iii) South Zone Cultural Centre, Thanjavur; (iv) West Zone Cultural Centre, Udaipur; (v) North-Central Zone Cultural Centre, Allahabad; (vi) North East Zone Cultural Centre Dimapur and (vii) South Central Zone Cultural Centre, Nagpur. The participation of states in more than one zonal cultural centre according to their cultural linkage is a special feature of the composition of the zonal centres.

RAMAKRISHNA MISSION INSTITUTE OF CULTURE

The Ramakrishan Mission Institute of Culture, Calcutta is engaged in the promotion of thought, knowledge and education. Apart from being engaged in cultural activities at national and international level, the Institute also maintains several schools of instructions.

INDIRA GANDHI NATIONAL CENTRE FOR THE ARTS

One of the major achievements in the field of arts and humanities in India has been the establishment of Indira Gandhi National Centre for the Arts (IGNCA) to commemorate the memory of the late Prime Minister, Mrs.

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Indira Gandhi. This institute launched on 19 November 1985 as a fully funded autonomous Trust, is visualized as a Centre encompassing the study and experience of all the arts—each for its own integrity, yet within a dimension of mutual inter-dependence, inter-relatedness with nature, social structure and cosmology. When complete, it will comprise a number of halls including a symphony concert hall, a national theatre, two museums, building for cultural archives focussing attention on the rich and varied oral traditions of Asia, a reference library, a fully-automated and integrated computerised system for national information system and data bank on arts, humanities and social sciences and a research and publication wing. Once completed, the Centre will be the biggest and the largest cultural complex in the world.

Through diverse programmes of research, publication, training, creative activities and performance, the IGNCA seeks to place the arts within the context of the natural and human environment. The fundamental approach of the Centre in all its work is multidisciplinary and interdisciplinary. The Centre comprises five divisions, *viz.* Kala Nidhi, Kala Kosa, Janapada Sampada, Kala Darsana and Sutradhara.

SUB INSTITUTIONS

KALA NIDHI

The IGNCA Kala Nidhi comprises a computerised national information system and data bank on arts, humanities and cultural heritage, fully supported by a reference library of multi-media collections to serve as a major resource centre for research in humanities and arts and a cultural archives of multi-media personal collections of artists/scholars. Kala Nidhi Library has rich personal collection of eminent scholars and artists like Suniti Kumar Chatterjee, Thakur Jaidev Singh, Krishna Kripalani, Hazari Prasad Dwivedi and Nashili Alice Heeramaanick. The total number of volumes in the library is now over 84,000.

Its corpus of printed material on catalogue of manuscripts of Indian and Asian origin include the Catalogue of Catalogum and other major Sanskrit, Persian and Arabic manuscripts from libraries/institutions in India and abroad. The Library has several thousand rolls of microfilms of manuscripts and microfishes, from different libraries abroad.

The Centre has launched an ambitious project of microfilming of unpublished manuscripts from private and public libraries in India. The Library has so far received more than 4,300 rolls and more than one lakh manuscripts from these institutions. The large photograph and slide collections of the Library focus on developing a resource centre where documentation of Indian and Asian artists is easily available for scholars.

The IGNCA also focuses on special areas in the region for making collections. The first one is South-East Asia where considerable work was done in making exhaustive literature search on material on civilization and culture in South-East Asia. Under the personal collection, late Prof. Sarkar's collec-

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tion on South-East Asia was acquired. In the area of Sino-Indian studies, follow up action on the Seminar "Cave Art of India and China" held in 1991-92 and preparation for the Golden Jubilee celebration of Dunhuang Academy in the next year constituted the major activities for these years. The Eurasian programme extends to the collection of manuscripts in Russia and Central Asia from well-identified institutes in St. Petersburg, Tashkent and Dushanbe. The translation of the Oldenburg volume is a major programme undertaken.

The Cultural Archives is the first of its kind in India and contains some prestigeous collections housed in the six sub-sections: Sahitaya, Vstu Silpa, Chayapata, Sangita, Nrtya and Natya. The collections so far include a large number of photographs of Raja Lala Deen Dayal; slides of Lance Dane; R.D. Wadia's photographs; audio collection of Carnatic music; Sadagopan collection of films on temple and several others. The video/audio documentation of old masters as also some rare art forms is a major activity undertaken by the Cultural Archives.

KALA KOSA

The Kala Kosa undertakes to highlight intellectual traditions of life through a multi-disciplinary approach. The development of basic concepts of arts through various disciplines as well as the theoretical conceptualization and its application in various branches of the arts are the areas where Kala Kosa intends to investigate.

A multi-volume encyclopaedic lexicon of fundamental concepts bearing on the art traditions, incorporating original source material with translation collected from some three hundred ancient classical and medieval texts, has been evolved. Two volumes of this lexicon *Kalattvakosa* have been released. In publication of a series, entitled *Kalamulasastra* critical editions of fundamental texts, covering a wide range of Indian classics from the *Vedic* literature to the various branches of arts, are being brought out. The editions are based on primary manuscript material and accompanied by English translation and interpretative commentary. So far eight volumes in this series have been released.

In the *Kalasamalocana* series, publication/reprint series of secondary material which has been acclaimed as 'finest critical scholarship' so far not available in English or not printed in India is undertaken. Till now, thirteen volumes, including some works of Ananda K. Coomaraswamy, have been released. Another ambitious project to compile a multivolume *Encyclopaedia of the Arts* has been undertaken and the preliminary work of the project is in progress. Besides all these long range programmes, Kala Kosa also organizes lectures and symposia by eminent scholars belonging to various disciplines.

JANAPADA SAMPADA

Indira Gandhi Janapada Sampada Division has undertaken research in the artistic expressions of the rich and variegated heritage of tribal and folk

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cultures of India and Asia with the aim of re-establishing these arts in their eco-cultural and socio-economic context. Ethnographic collection in the form of puppets from India and other countries have been made so as to set up a nodal puppet theatre in the country. Two very important ethnographic films; (i) Wangla : A Festival of Garos and (ii) a film on Lai Harouba were completed and screened in January 1993. Multimedia presentation would be made to public on art material related to India over the millenia through its projects namely *Adi Drsya* and *Adi Srvya*. Tribal and folk cultural art is being re-examined in its multi-dimensional multifaceted nature through a programme termed Lifestyle Studies in different projects on *Santhals, Meteis, Mukkuvars*, etc. An International Seminar on *Prakriti : Nature and Man An Integral Vission* was organised in January 1993 as a multi-disciplinary presentation on a single universal theme. Under Kshetra Sampada programme on Brahadisvara and Govinda Deva temples work on architectural drawings have been completed and exhibition based on research on the theme was held in Delhi. This was widely commented. A Children's World programme to acquaint the children with rich tribal and folk heritage through puppetry, puzzles, games, etc. has also been undertaken. An experiment in using contemporary theme through traditional shadow puppets *Togalugombeatta* of Karnataka was staged on Gandhiji's life. A workshop with traditional Indian puppeteers and Indonesian puppeteers on techniques was organised.

KALA DARSANA

An institution engaged in comprehensive research on arts and study of their intricate relationship with humanity cannot be complete without active expression and its projection to the people; Kala Darsana Division provides avenues for this expression through theatres, art galleries, etc. When fully established in the permanent building complex, Kala Darsana will have national theatre, Indian theatre and open air theatre, besides exhibition galleries.

Till the building complex comes up, limited activities and programmes are being implemented. This include exhibitions, lecture programmes, film shows and seminars etc. In series of thematic programmes KHAM (space) was organised in 1986, followed by AKARA (calligraphy) in 1988 and KALA (time) in 1990. In 1993 a programme on the *Panchmahabhuta* (five elements) was organised.

SUTRADHARA

Sutradhara is the administrative hub of the institution. The sub-divisions are: a) Co-ordination activities inhouse, administrative establishment evolving a management system for the institution, budget and financial matters; b) liaison with departments of government and national institutions and c) international relations bilateral, multi-lateral and with UN agencies.

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CENTENARIES AND ANNIVERSARIES

One of the important activities undertaken by the Government of India since Independence has been the commemoration of the anniversaries of distinguished Indians, who have left an indelible impression on the history and life of our country. Three important aims are sought to be achieved through such programmes. The first is to bring to light in detail the life and activities of such outstanding personalities and through them inform the world about the ideas and ideals they stood for and their relevance to India through the ages. The second is to create and arouse in the younger generation of our own country an awareness of our heritage and to reinterpret through these programmes, the cultural and spiritual values India stands for. Finally these programmes seek to promote international understanding through the inclusion of commemoration/celebration of noted personalities of other countries in the world community. During 1992-93, financial assistance was given to various organisations for celebrations of centenaries / anniversaries etc.

GANDHI SMRITHI AND DARSHAN SAMITI

Gandhi Smrithi and Darshan Samiti (GS and DS) was formed in September 1984. Its main objectives are to acquire, maintain and preserve the personal papers pertaining to the life and works of Mahatma Gandhi through socio-educational and cultural programmes. During 1992 GS and DS organised a number of programmes and activities involving children, youth, women, Gandhian constructive workers, academicians and scholars. At a special function organised on 11 May 1992 at Uparashtrapati Niwas, Dr. Shanker Dayal Sharma distributed prizes to about 150 school children of Delhi, who were identified on the basis of various competitions, held under the scheme "Taking Gandhi to School". The GS and DS paid the Centenary tribute to Khan Abdul Ghaffar Khan and held a conference and a youth camp at Champaran, Bihar. In commemoration of the Silver Jubilee of 'Quit India Movement' the Gandhi Smriti and Darshan Samiti held special exhibitions, lectures etc.

CULTURAL RELATIONS

The Department of Culture has continued to pursue a policy of cultural inter-action with other countries. At present India has bilateral cultural agreements with 93 countries and cultural exchange programmes with 67 countries. The highlights have been the signing of the first ever Cultural Exchange Programme with the four Central Asian Republics — Uzbekistan, Kazakhstan, Kyrghistan and Turkmenistan during 1992.

FESTIVAL OF INDIA

Indian festivals abroad started with the Festival of India in UK in 1982. Since then six more festivals have been held in USA, France, erstwhile USSR, Japan, Sweden and Germany. The Festival of India in Germany was

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announced by the then Prime Minister Shri Rajiv Gandhi and Chancellor Kohl during the former's visit to Germany in 1988. It was formally inaugurated in Berlin in September 1991 by Shri Narasimha Rao, Prime Minister.

All festivals have a common purpose of creating a greater awareness amongst the people of the receiving country of India's rich cultural heritage and contemporary development in various spheres of modern India. This helps to generate an appropriate climate of goodwill and understanding for mutual exchanges in different spheres including technology, commerce and tourism on a more permanent footing. The main thrust of the Festival of India has been to project its multifaceted cultural life, while also highlighting scientific and technical progress and advancement through a series of exhibitions, programmes of performing arts as well as through seminars, readings, workshops, youth meetings, sports festivals etc. Recent significant festival events are as follows:-

The Festival of India in Germany held in 1992, exposed German audiences to all the Indian classical dance forms and to a careful selection of Hindustani and Carnatic vocal and instrumental music. Folk and traditional arts were also presented. A joint production of Girish Karnad's play *Nagamandala* was staged by German actors under the direction of Smt Vijaya Mehta. Around 40 Indian films were screened at different venues. The Festival also included seminars on wide ranging subjects such as environment, technology and social change, urbanisation, Indo-German relations, Tagore, theatre, Indian architecture, literature, trade and commerce. Five exhibitions were organised in addition to these events on textiles, architecture, handicrafts, Indian sculpture and photography. A number of German organisations sponsored local or associated events under the Fes tival banner.

In return for the Indian Manifestation in Sweden held in August-September 1987, some events of a Swedish Manifestation in India were held during 1991-92. A Swedish Design Exhibition was held in 1990-91. In November and December 1991, a contemporary art exhibition was received from Sweden, and January 1992 Swedish traditional folk music and classical jazz groups held shows in major cities throughtout the country. A Swedish Film Week was also held in February 1992. A Swedish Children's Film Festival was held in Bombay, Guwahati, Thiruvananthapuram in October-November 1992. Three seminars on "Affordable Housing " Future Prespective of Women and 'Working Environment', was held in conjunction with the Swedish Institute, Stockholm in January-March 1993.

The Festival of China in India was jointly inaugurated on 2 December 1992 by Vice-President of India, Shri K.R. Narayanan and Liao Hansheng, Vice-Chairman of the National Peoples Republic of China in New Delhi. The Festival of China included performing art events, exhibitions, seminars, film festival and TV films. The Festival concluded in January 1993.

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7 Scientific and Technological Developments

SCIENCE and technology (S and T) activities in India are based on a long and distinct tradition spread over a few thousand years. Starting with the Indus Civilization around 2500 B.C., the sub-continent has been a place for major historical and philosophical developments coupled with various facets of S and T activities. Recent excavations at Kalibangan in Rajasthan and Lothal in Gujarat have brought to light the varied achievements of this period particularly in the field of town planning and building of houses using standard burnt bricks interlinked drainage system, wheel-turned ceramics, solid wheel carts as well as use of copper and bronze in several products. In the field of medicine and surgery, the two classics *Charak Samhita* and *Sushrita* on *Ayurveda* are recognised as important contributions in the field of medical science during the sixth century B.C. In the field of metallurgy, India was known for some outstanding achievements. As mentioned in *"Rasvatnakar"*, the first batch of zinc to be distilled by man occurred in Zawar, Rajasthan around 50 B.C. The *"Madhuchusta Vidhanam"*or the lost wax process was mastered leading to the magnificant Chola bronze icons during 800-1400 A.D. Indian mathematicians and astronomers have also contributed very significantly to the basic concept of celestial science.

Since 1947, with the emergence of a new politically independent nation, India has continued to march ahead pursuing a programme of using modern science and technology for national development. Today, India spends about one per cent of its GNP on scientific and technological developments.

SCIENTIFIC POLICY RESOLUTION

Soon after independence, conscious efforts were made to enhance and modernise the scientific infrastructure in the country to setting up a chain of national laboratories, institutes of higer technical education, universities, etc. Pandit Jawahar Lal Nehru, the first Prime Minister of India was firmly committed to building these "modern temples" for national development. In pursuance of the nation's commitment to using science and technology for development, the Parliament passed the Scientific Policy Resolution (SPR) on 4 March 1958 which emphasises Government's responsibility "to foster, promote and sustain, by all appropriate means, the cultivation of science and scientific research in all its aspects—pure, applied and educational". The policy also envisages the well-planned effort for promoting and

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encouraging the growth of science and technology personnel on a scale adequate to fulfil the country's needs in areas of education, agriculture, industry and defence. The SPR also aims "to secure for the people of the country all the benefits that can accrue from the acquisition and application of scientific knowledtge". Government has been pursuing this SPR through its various ministries and departments.

TECHNOLOGY POLICY STATEMENT

Recognising the role that technology can play in the development of society, a Technology Policy Statement (TPS) was formulated in 1983 with the basic objective of developing indigenous technology and ensuring efficient absorption and adaptation of imported technology appropriate to national priorities and availability of resources. It is aimed at attaining technical competence and self-reliance, reducing vulnerability particularly in strategic and critical areas and making maximum use of indigenous resources. The TPS also aims at using traditional skills and capabilities making them commercially competitive. Several other measures through technology intervention are envisaged to optimise demand on energy and ensure harmony with the environment. With a view to strengthening the economy, structural reforms have been introduced through adoption of a new industrial policy which will have an important bearing on the programmes of development pertaining to science and technology.

A draft paper towards a new technology policy was prepared in 1993. The policy is directed to achieve a greater spread of the use of technological developments, easier accessibility of technological devices to all segments of the society, enhancing infrastructural facilities, upgrading traditional skills and upgrading technologies to international levels. The draft of the policy is being widely circulated to obtain feedback before it is finalized for further processing.

PLANNING AND EXPENDITURE

Government has made conscious efforts at planning and allocating appropriate resources as part of the development processs. From the beginning of the First Five Year Plan, the programmes of various national laboratories and scientific departments have been supported by allocating resources. Planning for S and T is mainly achieved by preparing plans for the following three sectors in an independent manner: (i) plans for the six scientific departments *viz.* Department of Science and Technology, Department of Scientific and Industrial Research, Department of Biotechnology, Department of Ocean Development, Department of Space and Department of Atomic Energy; (ii) planning for science and technology component of over 30 socio-economic ministries/departments including organisations like Indian Council of Medical Research, Indian Council of Agricultural Research, Department of Electronics, Central Board for Irrigation and Power,

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etc. and (iii) A separate S and T sector in the Plans of the states and union territories.

After the Sixth Five Year Plan, increasing attention has been given to the role of S and T in socio-econimic ministries. The approach for the Eighth Five Year Plan has been to integrate and regroup and wherever possible to provide focus to specific programmes. Conscious efforts have been made to prioritise the activities based on the development needs, societal relevance, linkages and time element. Some programmes, which call for a mention here are Advanced Materials Development Programme, Molecular Electronics, Critical Technology Programmes, Liquid Crystals Research, etc. The specific allocation of resources are shown in table 7.1 which contains the outlays for Fifth, Sixth and Seventh Five Year Plans.

SCIENCE AND TECHNOLOGY INFRASTRUCTURE

Scientific and technological activities in India can be classified into the following; (i) Central Government, (ii) State Governments, (iii) higher educational sector, (iv) public and private sector industry and (v) non profit institutions/associations. These institutional structures, with their research laboratories, are the main contributors to research and development being carried out in the country. These are the Council of Scientific and Industrial Research, Indian Council of Agricultural Research, Indian Council of Medical Research besides departmental laboratories of various departments/ministries *viz* Department of Atomic Energy, Department of Electronics, Department of Space, Department of Ocean Development, Defence Research and Development Organisation, Ministry of Environment and Forests, Ministry of Non-Conventional Energy Sources and the Ministry of Science and Technology comprising three departments—Science and Technolgoy, Scientific and Industrial Research and Biotechnology. In addition, there are about 1200 inhouse R and D units in idustrial undertakings supporting research in their respecitve industries. Agricultural universities with their research stations have been set up under the state governments. At present, there are 206 universities, 7,121 colleges and 2, 500 research and development institutions in the country. The total number of personnel in the R and D sector are estimated at 3.01 lakh as in April 1990.

PROGRAMMES OF THE SCIENTIFIC DEPARTMENTS

SCIENCE AND TECHNOLOGY

Department of Science and Technology, set up in 1971, has evolved policy statements and guidelines, provided mechanisms of coordination of areas of science and technology in which a number of institutions and departments have interests and capabilities, supported grants-in-aid to scientific research insitutions and professional bodies. By the very nature of the activities of the department, it has to play a catalytic and coordinating role,

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and, in this process over the past few years, the efforts at promoting science and technology in the states and union territories have also gathered considerable momentum.

The programmes of the Department of Science and Technology, are summarised below.

R AND D PROMOTION PROGRAMME

The Department promotes research and development activities through these mechanisms; (i) Individual research projects are selected and approved through a high level expert body *viz.* The Science and Engineering Research Council (SERC). Every year more than 800 projects are received, and based on the principle of "peer review" system about 200 projects are being supported. These projects mainly fall in the cateogry of basic sciences; (ii) the Department also evolves nationally coordinated R and D programmes and establishment of core groups/centres in important areas such as superconductivity, neurobiology, lasers and optics, solid state and suface chemistry, instrument development, seismicity, new fibres and composites, robotics, advanced technology materials such as ceramics, etc. These are supported through a coordinated inter-agency mechanism wherever essential; (iii) in order to promote R and D activities in the country, the Department has also taken the responsibility of setting up national facilities, and infrastructure in the form of Regional Sophisticated Instrumentation Centres (RSICs), National Coordination of Testing and Calibration Facilities (NCTCF) and seminar complexes in different parts of the country. The Department has also supported major science and engineering academies in the country. Special programmes and schemes like individual R and D projects, national and international fellowships, summer and winter schools and training programmes have been introduced to encourage young scientists for pursuing a research career. It has also introduced a pass book scheme which enables the R and D institutes in the country to import necessary equipment and consumables without payment of duty in a more efficient manner.

TECHNOLOGY DEVELOPMENT AND RELATED PROGRAMME

The Department has given attention to a programme for stengthening the existing facilities for materials research and specific programmes for product development in different groups of materials have been undertaken. As part of its technology promotion programmes, the Department has helped in initiation of specific technology missions which involve the development of product sub-systems/systems such as biological pest control, bio-fertilizer and aquaculture in the Department of Biotechnology; parallel computing, new materials, selected retrofit automation, air navigation system, micro-electronics and photonics in the Department of Electronics; leather and clean coal technologies in the Council of Scientific and Industrial Research. Five initiatives launched in the Department of Science

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and Technology are: advanced composites, fly ash disposal, natural disaster, mitigation, sugar production technologies and mass employment generation.

As envisaged in the Technology Policy Statement 1983, and following the recommendations of the Technology Policy Implementation Committee, the Department has set up an autonomous body Technology Information Forecasting and Assessment Council (TIFAC) with the mandate of establishing technology, information system and carrying out technology assessment and technology forecasting studies in the areas involving substantial investments of financial resources and large volumes of production. Studies have been carried out in areas of human settlement planning, building technology and skills, sugar industry, steel, materials technology, automated machinery and production systems, foundry modernisation, energy, etc. So far about 100 reports have been published and recommendations of the studies have also been drawn and widely disseminated. Special mechanisms have been established in a few selected areas for follow-up action.

As part of its coordinating and catalytic role, the Department has guided various socio-economic ministries in the setting up of Science and Technology Advisory Committees (STACs) for formulation of long/short term development programmes. By 1991-92 STACs had started functioning in 20 ministries. For coordinating the efforts of STAC and to take stock of the activities of various ministries, the Department has also set up an Inter-sectoral S and T Advisory Committees (IS-STAC) under the chairmanship of Secretary, DST. A quarterly newsletter "STAC SCAN" is being brought out.

The Department also provides support for the National Superconductivity Programme (NSP) a nationally coordinated programme of three government departments/agencies namely Depatment of Atomic Energy, Department of Science and Technology and Council of Scientific and Industrial Research, under aegis of the National Superconductivity Science and Technology Board. In the second phase of the NSP (October 1988-March 1995), 62 R and D projects are being supported at 35 institutions. In order to promote instrumentation in the areas of analytical, medical and testing and measuring instruments, expert Core Groups have been set up in the existing institutions to undertake design and development of selected instruments and manpower training. In addition, projects in the fields of geoscience, agriculture and lasers have been sponored for instrument development and production. Industries (both private and public sectors) have been associated with each programme/project.

S AND T PROGRAMMES FOR SOCIO-ECONOMIC DEVELOPMENT

The Department of Science and Technology has specific programmes to support application of S and T to directly benefit the weaker sections of the society. S and T agencies and voluntary organisations at district and village levels are supported on time-bound projects to set up replicable models of

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application of S and T for skill-upgradation, drudgery-reduction and attempting solutions to prioritised problems of the area. Special schemes have been launched for problems affecting the poor amongst scheduled castes and remote and primitive tribal groups as part of the special component plan and tribal sub-plan of the Department. Expertise of retired scientists and the enthusiasm of young scientists in such activities is encouraged through appropriate programmes.

NATURAL RESOURCES DATA MANAGEMENT SYSTEM

Through this programme of the Department of Science and Technology, efforts are made to develop a methodology to integrate data base on natural resources from varied sources with the socio-economic and agro-economic parameters to solve location specific problems. Fourteen district data base centres in different geo-environmental settings have been established. Application projects such as ground water budgetting, location of water harvesting structures, evolving rainfall-runoff models for micro watersheds, biomass management plans, etc., have been carried out. Several softwares such as geographical information system, land information system, etc., have also been developed to aid spatial data analysis.

STATE S AND T COUNCILS

The Department through its scheme of development of state councils for science and technology, initiated during the Sixth Plan, has been assisting the states and UTs for the purpose of using science and technology in their development programmes. The Department has been playing a catalytic role in advising/guiding with the organisation and structure of the Councils as well as identification, formulation and implementation of the state S and T programmes. The mechanism also provides linkages between state and Central S and T agencies.

S AND T COMMUNICATION AND POPULARISATION

The S and T commnication and popularisation scheme of the Department was continued under the guidance of the National Council for Science and Technology Communication (NCSTC). In addition to the ongoing programmes, two major science communication efforts were made recently. *Bharat Jan Gyan Vigyan Jatha* - 1992 (BJGVJ-92) catalysed by DST could be considered the biggest ever science and technology communication experiment in the country, undertaken jointly by NCSTC (DST) and Department of Education, MHRD. The main themes of BJGVJ-92 include: health, water, environment, appropriate technology, superstititions and scientific thinking and literacy. Science and technology communication software, on the main themes of the Jatha, was developed/duplicated both at the Central and state-levels, which included brochures and posters for publicity, poster sets on water, enviornment and housing; booklets, puppet plays, low-cost exhibitions, water, etc. The Jatha covered nearly 40,000 locations in about 400 districts touching almost a third of country's population.

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MANAV KA VIKAS a 144-part radio serial on human evolution which started in June 1991, continued to be broadcast on Sunday mornings almost simultaneously in 18 Indian languages, from 84 AIR stations across the country. This programme, a joint effort of NCSTC and AIR, is the longest radio science serial produced in the world. More than one lakh children in the 10-14 years age group and 10,000 schools are registered as dedicated listeners to the programme. On an average, for every four episodes of the serial, one episode is reserved for interaction with the listeners. Queries not directly related to the content of the broadcast, or totally unrelated, are answered individually.

NATIONAL CENTRE FOR MEDIUM RANGE WEATHER FORECASTING

The National Centre for Medium Range Weather Forecasting (NCMRWF) has been set up with Cray X-MP/216 based supercomputing facility as basic infrastructure. The prime objective of the Centre is to develop the numerical models for medium range (3 to 10 days in advance) weather forecasting. These forecasts are mainly to be used for preparation of advisories for the farming community.

S AND T RESOURCES INFORMATION

The National Science and Technology Management Information System under the Department is entrusted with the task of collection, collation, analysis and dissemination of vital science and technology information at national level. Scientific and technological research demands huge investments and calls for a judicious utilisation of scarce resources like finance, trained manpower, raw materials, etc. Biennial national surveys covering nearly 2,500 S and T institutions of major scientific agencies and other Central Government departments, state governments and in-house R and D units of pulbic and private sector industries are carried out regularly. The total national research and development expenditure was Rs 4,186.43 crore in 1990-91 which works out to 0.89 per cent of Gross National Product (GNP). Table-7.1 provides growth of R&D expenditure over time. The number of personnel employed in R&D establishments were 3.01 lakh and out of which nearly 1.06 lakh personnel were engaged in R&D activities.

INTERNATIONAL COOPERATION IN SCIENCE AND TECHNOLOGY

International S and T programmes currently in operation covering collaborative activities with developed and developing countries as well as programmes of multilateral nature, exist with over 40 countries. Amongst these the more important dealings have been with USA, Russia, France, Germany and the European Economic Community from the industrialised countries, and with China, Mauritius and Vietnam amongst the developing nations. Newer arrangements have been worked out with some of the East European and CIS countries. An Integrated Long Term Programme of

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Cooperation in S and T with Russia has continued to be a vital instrument of cooperation. Joint ventures like the Advanced Research Centre for Powder Metallurgy in Hyderabad and Oral Polio Vaccine Production Facility in Bulandshahr have been set up in cooperation with the CIS countries. The Indo-French Centre for the Promotion of Advanced Research, New Delhi has continued to function as an effective mechanism for S&T cooperation with France. A similar role has been played by the Centre for Science and Technology of the Non - aligned and other developing countries at Delhi in promoting collaboration under the NAM umbrella. Multilateral programmes also include UNDP supported projects and UNESCO related activities.

INDIA METEOROLOGICAL DEPARTMENT

The India Meteorological Department (IMD) established in 1875 is the principal agency in all matters relating to meteorology, seismology and allied subjects. Its main objectives are to provide meteorological information for weather sensitive activities, like aviation, shipping, agriculture, irrigation offshore oil exploration and industries. It also issues warning against severe weather phenomena like cyclones, dust-storms, heavy rains and rainfall, cold and heat wave which cause destruction of life and property. Besides, it provides climatological information, records earthquakes and promotes research in meteorology. For this purpose, the IMD maintains observatories and offices all over the country. Research in meteorology is one of the basic functions of the Department. Recently, a mathematical model developed for long range forecast of south-west monsoon rainfall over India has given consistently accurate result for the fifth year in succession. The IMD also participates in Antarctic expeditions and ocean cruises and has strong international linkages especially with World Meteorological Organization (WMO) and the South Asian Association for Regional Cooperation (SAARC).

SURVEY OF INDIA

The information accruing from accurate surveys are enormously useful for various developmental and strategic needs. The Survey of India (SOI), another premier organisation under the department is responsible for the production of topographical maps and providing services to defence forces and also to other users for various developmental activities. It provides vital inputs to irrigation, hydel power, mining, steel and railways. Modern facilities for map making, including the setting up of a modern cartographical centre, digital mapping centres, etc., are some of the important facilities with the SOI.

NATIONAL ATLAS AND THEMATIC MAPPING ORGANISATION

While Survey of India meets the national needs in cartography, etc. some specialised thematic maps required to meet the needs of specific users are

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taken care of by the National Thematic Mapping Organisation (NATMO), operating under the department. It also concentrates its attention in a number of areas to integrate resources maps with other relevant socio-economic data and represent them in spatial forms, useful for developmental planning.

AUTONOMOUS SCIENTIFIC INSTITUTIONS

As part of its programmes for supporting science and technology activities in the country, the Department provides grants-in-aid to 13 autonomous scientific research institutions and important national academies namely, the Indian National Science Academy, New Delhi, the Indian Academy of Sciences, Bangalore, National Academy Sciences, Allahabad, Indian Science Congress Association, Calcutta and Indian National Academy of Engineering, New Delhi. These institutions take up programmes in areas of life, physical, chemical, earth, atmospheric and engineering sciences. They have a large body of scientists carrying out research and have made very valubale contribution in the form of research publications in prominent national and international journals. In a few cases, technological developments in these institutions have also been transferred to production agencies.

ATOMIC ENERGY

India embarked on an ambitious nuclear programme over four decades ago. The Atomic Energy Commission (AEC) was set up in 1948, to lay down policies on use of atomic energy for peaceful applications. To execute these policies, the Department of Atomic Energy (DAE) was formed in 1954. The activities of DAE can broadly be grouped under research and development, nuclear power production, and industries and minerals. The Department also extends financial support to several institutions carrying out basic research in nuclear and allied sciences.

NUCLEAR POWER PROGRAMME

To use uranium and vast thorium resources of the country, a three stage atomic power programme was envisaged in 1940s. The ongoing first stage of the programme uses natural uranium fuelled pressurised heavy water reactors (PHWRs) for producing electricity. The spent fuel, when reprocessed, yields plutonium which will be used as fuel along with depleted uranium in the second stage fast breeder reactors (FBRs). Reprocessing of the second stage spent fuel will result in production of more plutonium and uranium-233 when thorium is used as a blanket. The third stage reactors will be using uranium-233.

A Power Projects Engineering Division was established in 1967 to assume responsibility for building nuclear power stations. In August 1984 this Division was re-constituted as the Nuclear Power Board to implement the nuclear power programme in the country. For greater operational

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TABLE 7.1 PLAN OUTLAY AND EXPENDITURE FOR THE S AND T AND SECTOR AND ITS RELATION TO THE TOTAL OUTLAY DURING THE FIFTH, SIXTH AND SEVENTH FIVE YEAR PLANS

(Rs crore)

S. No.	Department Agency	Fifth Plan 1974-79 Outlay	Fifth Plan 1974-79 Exp.	Sxith Plan 1980-85 Outlay	Sixth Plan 1980-85 Exp.	Seventh Plan 1985-90 Outlay	Seventh Plan 1985-90 Exp.
1.	Central S and T Agencies/Deptts (a)	438.23	384.51	808.15	990.16	2,022.74	2,589.14
2.	S and T in Socio-Economic Sectors	375.59	308.65	1,109.01	989.66	1,953.49	2, 408.14
3.	S and T in the States/UTs and NEC	0.00	0.00	17.05	36.39	87.06	89.25
4.	Total S and T (a)	813.82	693.16	1,926.11	2,016.21	4,063.29	5,086.53
5.	Total Public Sector (&)	39,303.00	39,426.20	97,500.00	1,09,291.70	1,80,000.00	2,21,850.20
6.	Total S and T as per cent of Total Public Sector	2.07	1.76	1.98	1.84	2.26	2.29
7.	Central S and T Agencies as per cent of Total Public Sector	1.12	0.98	0.83	0.91	1.12	1.17
8.	S and T in Socio-Economic Sectors	0.96	0.78	11.13	0.91	1.09	1.09
9.	S and T in States as per cent of Total Public Sector	-	-	0.02	0.03	0.05	0.04
10.	Total Central Sector	19,954.00	18,755.00	47,250.00	57,825.20	95,534.00	1,30,394.82
11.	Central S and T Agencies as per cent of total central sector	2.20	2.05	1.71	1.71	2.12	1.99
12.	S and T In Socio-Economic Sectors as per cent of Total Central Sector	1.83	1.65	2.33	1.71	2.04	1.85
13.	Total State Sector (&)	19,349.00	20,671.00	50,250.00	51,466.00	84,466.00	91,455.38
14.	S and T in States as per cent	-	-	0.03	0.07	0.10	0.10

(a) Excludes Environment. (&) Includes Rs 450 crore under hill and tribal area development.
Source: The Eighth Five Year Plan 1992-97.

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flexibility, the Nuclear Power Board was converted into the Nuclear Power Corporation which started functioning from 17 September 1987. Generation of electricity from nuclear energy commenced in 1969 with the commissioning of Tarapur Atomic Power Station (TAPS) consisting of two enriched uranium fuelled boiling water reactors of 210 MWe capacity each. Two prototype PHWR units of the Rajasthan Atomic Power Station (RAPS), using natural uranium as fuel and 220 MWe capacity each, attained criticality in December 1972 and April 1981 at Rawatbhatta (Rajasthan). On 27 January 1984, the Madras Atomic Power Station (MAPS) at Kalpakkam, near Madras started commercial operation, and the second reactor followed suit on 21 March 1986. These were the first reactors which were indigenously designed and constructed. This was followed by two more reactors at Narora in Uttar Pradesh, which went critical on 12 March 1989 and 24 October 1991. The Narora reactors are standardised version of 220 MWe reactors and all the future 220 MWe PHWRs will be of this design. A 220 MWe reactor of Kakrapar Atomic Power Station (KAPS) has synchronised with the grid on. With this the installed nuclear power generation capacity in the country is 1,720 MWe. The second reactor of KAPS is fast approaching completion. Four more reactors of 220 MWe series are under construction two each at Rawatbhatta and Kaiga (Karnataka) and four are at planning stage at Kaiga. The design of the 220 MWe has also been upgraded to 500 MWe. Six reactors of this capacity will be set up at Tarapur (two units) and Rawatbhatta (500 units). Two pressurised water reactor units (VVER type) of 1000 MWe capacity each will be set up at Kudankulam (Tamil Nadu) in collaboration with Russia. On 18 October 1985, the 40 MWt sodium cooled fast breeder test reactor (FBTR) using indigenously developed plutonium carbide fuel, attained criticality at Kalpakkam (Tamil Nadu). With this a beginning was made in the second stage of the nuclear power programme.

HEAVY WATER PRODUCTION

Heavy water is used as moderator and coolant in PHWRs. The country's first heavy water plant set up at Nangal (Punjab), has been in operation since 1962. The heavy water plants using ammonia-hydrogen exchange process were subsequently set up at Baroda (Gujarat), Talcher (Orissa), Tuticorin (Tamil Nadu), Thal (Maharashtra) and Hazira (Gujarat). Heavy water production technology using hydrogen sulphide water exchange process was developed indigenously. Based on this process, the first commercial plant was set up at Rawatbhatta (Rajasthan), followed by second plant commissioned at Manuguru (Andhra Pradesh) in 1992.

NUCLEAR FUEL PRODUCTION

Exploration, mining, and fuel fabrication, the front-end activities of the nuclear power programme have been established in the country through totally indigenous technology. Significant quantities of uranium, thorium

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and other nuclear minerals have been added to the mineral inventories. The uranium reserves are sufficient to support the first stage 10,000 MWe (PHWR) of nuclear power generation over the design life. Exploitation of thorium reserves would lead to supporting about 2,50,000 MWe. The natural uranium oxide ore is processed and converted to yellow cake at the Uranium Corporation of India Limited, Jaduguda (Bihar), which is an input for fuel fabrication activities at the Nuclear Fuel Complex established in 1971 at Hyderabad. India has also developed technologies for reprocessing of spent fuel and waste management. Since the sixties, spent fuel has been reprocessed indigenously and the waste management programme is also well established. India is now amongst a few countries in the world who have developed the technology which converts high level radioactive waste into glass.

RESEARCH DEVELOPMENT

Research is carried on in fast breeder technology and frontline areas such as lasers, acclerators and superconductivity. R and D activities of DAE are concentrated at four research centres namely the Bhabha Atomic Research Centre, Trombay; Indira Gandhi Centre for Atomic Research, Kalpakkam; Centre for Advanced Technology, Indore, and Variable Energy Cyclotron Centre, Calcutta.

BHABHA ATOMIC RESEARCH CENTRE

Set up in 1957, the Bhabha Atomic Research Centre (BARC) is a premier research institution of the country working in nuclear sciences and related fields. The country's first 1 MW research reactor 'APSARA' was built indigenously in 1956. In 1960, a 40 MW research reactor "CIRUS" was commissioned at Trombay for developmental work including production of isotopes, experimentation, and training. "CIRUS" is still in operation. A new high flux indigenous 100 MWe reactor DHRUVA was commissioned in August 1985 for research in advanced nuclear physics and production of isotopes. Other facilities of BARC include a research reactor Purnima III using uranium-233 as fuel, a neutron source reactor KAMINI (at Kalpakkam), a 5.5 MeV Van-de-Graff accelerator at Trombay, a 14 MeV pelletron accelerator at Colaba, Bombay set up in collaboration with TIFR, a Beryllium Plant at Vashi (New Bombay), Power Reactor Fuel Reprocessing Plant (PREFRE) and Waste Immobilisation Plant at Tarapur, and a seismic station at Gauribidanur (Karnataka). The Radiation Medicine Centre of BARC at Bombay uses radioisotopes for diagnostic and therapeutic applications.

BARC provides the much needed R and D back-up for the nuclear power programme, and other units of the industry and mineral sector. This Centre has also developed technologies in peaceful uses of atomic energy such as applications of radioisotopes in industry, medicine, and agriculture. The outcome of the research work done has resulted in

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production of radiopharmaceuticals, and labelled compounds, high yielding crop varieties, preservation of spices and sea foods by irradiation. A number of technologies developed at BARC have been transferred to industries for commercial use. The Centre has a Health Physics Division which provides countrywide health monitoring services for radiation workers.

INDIRA GANDHI CENTRE FOR ATOMIC RESEARCH

Set up in 1971 at Kalpakkam, near Madras, the Centre carries out R and D activities relating to fast breeder development. This Centre has set up a fast breeder test reactor (FBTR) presently operating at a power level of 1 MWt. Based on the experience gained from (FBTR) this Centre has evolved a design for the prototype 500 MWe reactor (PFBR) and is equipped with modern laboratories for carrying out work in metallurgy, radiochemistry and fuel reprocessing related to fast reactors.

CENTRE FOR ADVANCED TECHNOLOGY

The Centre, set up in 1984 at Indore, has been developing technologies in the area of lasers and accelerators. The synchrotron radiation source being set up here, will be a major research facility in the country. The Variable Energy Cyclotron Centre (VECC) at Calcutta is a national centre for advanced work in nuclear physics, nuclear chemistry, production of isotopes for various applications and radiation damage studies on reactor materials.

BOARD OF RADIATION AND ISOTOPE TECHNOLOGY

Radioisotopes find extensive use in medicine, crop improvements, food irradiation, industry and research. To carry out activities in the above fields on commercial lines the Board was set up in 1988 for producing and supplying various radioisotope products. It operates regional centres for radiopharmaceuticals at Bangalore and Delhi, RIA Centre at Dibrugarh, and irradiation plants ISOMED at Trombay.

PUBLIC SECTOR UNDERTAKINGS UNDER D A E

Besides NPC, three public sector undertakings operate under DAE. These are:

URANIUM CORPORATION OF INDIA LIMITED

The Uranium Corporation of India Limited (UCIL) was formed for mining, milling and processing of uranium ores. It operates a uranium mill at Jaduguda (Bihar). and two uranium mines at Jaduguda and Bhatin (Bihar). It also has facilities to recover minerals such as copper concentrates and molybdenum from the ores.

INDIAN RARE EARTHS LIMITED

In 1950, the Indian Rare Earths Limited was incorporated as a company of DAE. It has mineral sand separation plants at Manavalakurichi (Tamil

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Nadu) and Chavara (Kerala), Rare Earths Plant for monazite processing at Alwaye (Kerala) and the Orissa Sands Complex (OSCOM) at Chhattarpur (Orissa). The major products of IRE are: ilmenite, rutile, zircon, rare earths chloride and others. The corporation is a major, exporter of rare earth minerals and value added products.

ELECTRONICS CORPORATION OF INDIA LIMITED

In operation since 1967, ECIL has pioneered the production of wide-ranging indigenously developed sophisticated electronic systems and instruments for use in the nuclear power programme and other industries. The Corporation is one of the leading organisations of the country in the field of manufacture of computers, control and instrumentation, communication systems, and consumer electronics.

INTERNATIONAL COOPERATION

India is one of the designated members of the International Atomic Energy Agency's Board of Governors. The Department has been offering training facilities, fellowships, and scientific visits, and makes available the services of its scientists for expert assignments both through the International Atomic Energy Agency (IAEA) and countries with which bilateral agreements for cooperation in the field of peaceful uses of nuclear energy have been entered into.

SUPPORT TO RESEARCH

The Department has been funding four institutions namely the Tata Institute of Fundamental Research (TIFR), Saha Institute of Nuclear Physics (SINP), Tata Memorial Centre (TMC) and Institute of Physics (IOP). The TIFR set up in 1945 at Colaba, Bombay, is engaged in fundamental research mainly in the fields of mathematics, physics, astrophysics, molecular biology and computer sciences. The facilities under TIFR include: The Balloon Facility at Hyderabad, Radio Astronomy Centre and National Image Processing Facility for Astronomy at Ootacamund (Tamil Nadu), and FT-NMR (Fourier Transform Nuclear Magnetic Resonance) National Facility at Bombay. TIFR is also setting up a giant metre wave radio telescope at Narayangarh near Pune, which will be world's largest telescopes in the metre wave range. The Tata Memorial Centre at Bombay is the foremost institution in the country in research, diagnosis and treatment of cancer. It is also a premier educational centre in oncology. The Saha Institute of Physics at Bhubneshwar has facilities for advanced research in nuclear sciences. A 3 MV tandem pelletron accelerator is a major research facility of the institute.

INDIAN SPACE PROGRAMME

In India, space programme was formally organised in 1972 with the setting up of Space Commission and the Department of Space. The primary objective of the programme is to provide space-based services in areas of

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communication, meteorology, resources survey and management and, as integral to it, develop satellites, launch vehicles and associated ground systems. The past two decades have already seen the Indian space programme make remarkable progress through a well integrated, self-reliant programme. Space technology has not only enhanced the communication capabilities in the country but also it is now being widely deployed for providing advanced disaster warning, search and rescue measures and distance education to remote areas. Likewise, space remote sensing is providing vital inputs on agricultural, soil, forestry, land and water resources, environment, minerals, ocean development and in the management of drought and flood disasters, thus touching every facet of national development. Integrated mission for sustainable development mainly using IRS data, has been taken up at the suggestion of the Planning Commission for arriving at local specific prescriptions. Action has been taken to implement the Action Plans generated through pilot studies in six selected districts. For another 15 districts studies are in progress.

SPACE APPLICATIONS

INSAT SYSTEM

The Indian National Satellite System (INSAT) is a multipurpose operational satellite system for domestic telecommunications, meteorological observations and data relay, nationwide direct satellite television broadcasting and radio and television programme distribution. It is a joint venture of DOS, Department of Telecommmunications (DOT), India Meteorological Department (IMD), All India Radio (AIR) and Doordarshan. The Department of Space has direct responsibility for the establishment and operation of INSAT Space Segment.

The INSAT system, established in 1983 with the successful commissioning of INSAT-IB and served, at present by the last of the first generation INSAT-ID launched in 1991 and the first of the second generation INSAT-2A is providing vital operational services to the nation. The indigenously built INSAT-2A was launched in July 1992 on board the European launch vehicle, Ariane and was commissioned in August 1992. INSAT-2 series of satellites are more advanced and have one and a half times the capacity of INSAT-1 satellites. The second satellite in the INSAT-2 series, namely, INSAT-2B is scheduled for launch during 1993. More advanced, INSAT-2C, 2D and 2E are also under realisation.

INSAT UTILISATION

There are 133 telecommunication terminals operating in the INSAT network providing about 4,538 two-way speech circuits over 140 routes. Innovative uses of INSAT system have already extended to the establishment of rural telegraphy in the north eastern part of the country and National Informatic Centres to provide nationwide date communication links be-

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tween district and state capitals, Library networking on a large scale has been initiated.

The meteorological data gathering with VHRR instrument on board INSAT and its dissemination, along with the collection of remote area meteorological data from unattended platforms, has made a quantum difference in weather forecasting in the country. Satellite based locale specific disaster warning system, with over a hundred disaster warning receivers installed in the cylone-prone eastern coast, has been able to facilitate dramatic saving of human lives and live-stock during flood and cyclones. The most spectacular impact of INSAT has been in the rapid expansion of TV which, with 530 TV transmitters and direct reception sets, now provides access to over 75 percent of India's population. Rapid increase in the regional services, use of transportable earth stations and satellite news gathering vehicles, utilisation of satellite media for university education and nationwide radio networking has enabled even remote areas to become part of the mainstream of the nation. The Press Trust of India (PTI) has implemented a system to provide its news and information services at high speed and increased volume by utilising the broadcast facilities of INSAT satellite.

NEW APPLICATIONS

Special inexpensive hardware has been developed to promote an effective interactive educational system through satellites. The system has been successfully experimented in Gujarat during February 1991 where *sarpanchs, preraks* and voluntary teachers in Rupal, a remote village of Gandhinagar district, were able to interactively communicate with teachers located at the Space Applications Centre and Gujarat Vidhyapith at Ahmadabad. The successful conduct of ISRO-UGC experiment enabling students in a number of universities to interact, in real time, with the experts through specially developed talk-back facility has proved the efficency of the system. The continuing education experiment for industrial workers was conducted from Bangalore in February 1992, as a satellite capability demonstration. The first use of INSAT-2A was made to conduct an innovative interactive training programme for farmers of Bhiwani district of Haryana, in August 1992. This was carried out jointly with Haryana Agricultural University, Hissar.

GRAMSAT

Considering that eradication of illiteracy in the rural areas is of utmost importance for the nation to achieve all-round development through ushering a new green revolution and assimilation of scientific ideas and attitudes into the cultural fabric of the Indian society, evolution of a new concept of dedicated GRAMSAT satellites, specially tailored to meet the basic requirements of rural areas has emerged. The GRAMSAT will also help in providing continuing education for special groups to ensure that

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their technical skills are periodically updated to overcome technological obsolescence. The design of GRAMSAT incorporating six to eight high power C-band transponders has been already taken up.

INDIAN REMOTE SENSING SATELLITE-IRS

The second operational Indian Remote Sensing Satellite, IRS-IB was launched on 29 August 1991. The first satellite in the IRS series, IRS-IA, launched in March 1988 has successfully completed the design life of three years and continues to provide operational services even as it entered its sixth year of operation, IRS-IA and IRS-IB, together provide a repetitivity of 11 days thus covering the country more frequently, enhancing the scope for monitoring dynamic features associated with natural resources and environment. The development of second generation, highly advanced IRS satellites, namely, IRS-IC and IRS-ID, with much better spectral and spatial resolutions, more frequent re-visits, stereo viewing and on-board recording capabilities, has made further progress, IRS-IC and IRS-ID are planned to be launched during 1993-94 and 1996-97 respectively.

REMOTE SENSING APPLICATIONS

Remote sensing applications in the country, under the umbrella of the National Natural Resources Management System (NNRMS) for which the Department of Space is the nodal agency, now cover diverse fields such as crop acreage and yield estimation, drought warning and assessment, flood control and damage assessment, land use/land cover information, agroclimatic planning, wasteland management, water resources management, underground water exploration, prediction of snow-melt run-off, management of watersheds and command areas, fisheries development, urban development, mineral prospecting, forest resources survey, etc. Active involvement of the user ministries/departments has ensured the effective harnessing of this powerful technology. An important application of IRS data is in the integrated mission for sustainable development initiated during 1992.

LAUNCH VEHICLE TECHNOLOGY

In the area of launch vehicle technology, from a modest launch capability of SLV-3, the nation is on the threshold of realising large, cost effective operational launch vehicles required for IRS and INSAT, classes of satellites. The third development flight of Augmented Satellite Launch Vehicle, ASLV-D3, incorporating necessary modifications based on the data analysis of the earlier two flights was successfully launched on 20 May 1992. It injected the 106 kg SROSS (Stretched Rohini Satellite Series) satellite carrying a gamma ray burst experiment and a retarding potential analyser, into an orbit of 267 km perisree and 433 km opogee. The development of Polar

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Satellite Launch Vehicle PSLV, capable of launching 1,000 kg class of satellites into a polar sun synchronous orbit has reached an advanced stage. The first development launch of PSLV, carrying IRS-IE on board, is scheduled during 1993. The development of Geosynchronous Satellite Launch Vehicle, GSLV, incorporating cryo engine technology, capable of placing 2,500 kg INSAT class of satellites in geosynchronous transfer orbit, is making rapid progress and its first launch is expected by 1995-96.

SPACE SCIENCE

Space science research under the Indian space programme is mainly carried out in the areas of astronomy and astrophysics, planetary atmosphere and economy, earth sciences and solar system studies and theoretical physics. The research activities are carried out in a major way by the Physical Research Laboratory at Ahmadabad and to a lesser extent, at Space Physics Laboratory, Thiruvananthapuram, Space Applications Centre, Ahmadabad and ISRO Satellite Centre, Bangalore.

A programme on geosphere-biosphere research comprising carefully planned balloon, rocket and satellite-based experiments to study the effects of anthropogenic activities on the earth's environment has also continued. This programme was one of the many initiatives taken in the light of the year 1992 being designated as International Space Year by the United Nations. A national mesosphere-stratosphere-troposphere Radar Facility (NMRF) has been established at Gadanki near Tirpuati for study of atmospheric dynamics, atmospheric turbulence and diffusion measurement, study of atmospheric pollutant dispersion, detection of wind shear, cloud physics,etc. The gamma ray burst experiment and the retarding potential analysis carried on-board SROSS-C satellite have given valuable data which are being analysed.

SPACE-INDUSTRY COOPERATION

The space-industry cooperation involves transfer of advanced technologies developed by ISRO to industry and provision of technological consultancy from space programme to industry on the one hand and utilisation of industry's own technological potential and expertise by space programme on the other. The technology transfer scheme promotes and supports commercialisation of technologies developed by ISRO for applications in various fields. This scheme enables (i) meeting the requirements of space programmes and projects through buy-back of products produced by industry as a result of technology transfer; (ii) servicing rapidly expanding space applications markets in India generated by space programme in satellite communications, television and radio broadcasting, meteorological services and natural resources survey and management and (iii) exploiting full potential of indigenous technologies developed by ISRO for multifarious spin-off applications. So far, about 200 technologies have been licensed by ISRO. Certain premier industries in the field of aeronautics,

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communications and engineering have now set up their own specialised departments to deal with space products. In order to market the variety of hardware and services developed by ISRO commercially, a wholly government owned company "Antrix Corporation Ltd." has been set up.

SPACE CENTRES AND UNITS

Research and development activities under the space programme are carried out in various centres/units of ISRO/DOS. The major projects of ISRO are executed by identified lead centres depending upon the technology base established in them.

Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram, is the lead centre for launch vehicle development and it pioneers in rocket research and the planning and execution of launch vehicle development projects. ISRO Satellite Centre (ISAC), Bangalore, is responsible for the design, fabrication, testing and management of satellite systems for scientific, technological and application missions. Space Applications Centre (SAC), Ahmadabad, is ISRO's research and development centre for conceiving, organising and building systems for practical applications of space technology. The major fields of activity cover satellite communication, remote sensing, meteorology and geodesy. SHAR Centre, Sriharikota, located on the east coast of Andhra Pradesh, is the main launch centre of ISRO. This centre also undertakes large scale production of solid rocket propellant and ground testing of solid fuelled rocket stages of the Indian launch vehicles. Liquid Propulsion Systems Centre (LPSC) is the key centre for development of liquid propulsion systems. With its facilities located at Thiruvananthpuram, Bangalore and Mahendragiri (Tamil Nadu), the Centre undertakes research, development and testing of liquid propulsion systems for ISRO's launch vehicle and satellite programmes.

Development and Educational Communication Unit (DECU), Ahmadabad, is involved in the conception, definition, planning and socio-economic evaluation of space application programmes. Besides carrying out research and programme production with themes of development and educational oriented communications, the unit provides training services in this area. ISRO Telemetry, Tracking and Command Network (ISTRAC) with its headquarters and Spacecraft Control Centre at Bangalore and a network of ground stations at Sriharikota, Thiruvananthapuram, Bangalore, Lucknow, Car Nicobar and Mauritius, provides telementry, tracking and command (TTC) support for the launch vehicles and satellite missions of ISRO and for other space agencies. Master Control Facility at Hassan in Karnataka is responsible for all post launch operations of INSAT satellites including orbital manoeuvres, station keeping and in-orbit operations on the spacecraft. ISRO Inertial Systems Unit (IISU), Thiruvananthapuram, carries out development of inertial systems for both satellites and launch vehicles. Physical Research Laboratory (PRL), Ahmadabad under Department of Space is the premier national centre for research in space and

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allied sciences. National Remote Sensing Agency (NRSA), Hyderabad under the Department of Space, has facilities for surveying, identifying, classifying and monitoring earth resources using aerial and satellite data. The National Merosphere, Stratosphere, Troposphere Reader Facility (NMRF) at Gadanki, near Tirupathi is used by scientists for carrying out atmospheric research.

ELECTRONICS

Production of electronic equipment and component has come a long way since the days of radio receivers in 1940s. Electronics industry in India has grown with domestic demand as a result of import substitution efforts. In order to keep pace with developments in the international scene and also considering the increasing importance of electronics for diversified applications, the Department of Electronics was set up by the Government of India in 1971. Since then, the Department has been coordinating development of electronics in India and reviewing constantly the growth achieved in the industrial front and in the R and D capabilities.

Electronics plays a catalytic role in increasing production and productivity in key sectors like power, coal, oil, railways, communication and process industries. Concerted efforts launched by the Government in matters like creation of capacity, fiscal aspects and import policy etc., have helped electronics industry in achieving growth rates of about 35 per cent during the Seventh Plan period (1985-90) as compared to 25 per cent during the Sixth Plan period (1980-85). The growth has also helped in increasing employment generation in the country. The Eight Plan (1992-97) aims at creating an environment in which not only high level growth of electronics production is maintained but production levels are achieved at near international costs and prices. By 1996-97, the gross output of the industry is estimated to reach a level of Rs 36,000 crore. Promotion of software development, its export and development of micro-electronics and materials industry have also been taken as the thrust areas in this Plan period.

PRODUCTION BASE

Overall production base of the electronics industry is very widely distributed. There are, at present, over 3,200 units comprising eleven central public sector units (with 28 manufacturing establishments), 67 units in state public sector, over 470 units in organised private sector and more than 2,500 units in small scale sector. During 1992 contribution of public sector units was around 30 per cent, organised private sector 42 per cent and small scale sector 28 per cent. Production performance in different sectors of electronics for last five years is given in table 7.2 Production of consumer electronics items increased from about Rs 1,275 crore in 1986 to Rs 3,300 crore in 1992. This sector contributes about one-third of the total electronics production in the country. Indigenous technology for FM trans-

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mission and low cost receiver has been developed for noise free reception. In addition, domestic manufacturing facilities for VCR/VCP and microwave ovens have been created with high content of indigenous material. A major project on "System and VLSI Design for Digital TV" has been launched as a fore-runner to digital fabrication and preparation of base for taking up HDTV project in the country.

The control instrumention and industrial electronics sector registered a production of Rs 1,600 crore in 1992 as compared to the production of Rs 525 crore during 1986. Due to the modernisation of industries like steel, non-ferrous metals, fertilisers, etc., the use of control instrumentation for providing distributed control sequential operations, monitoring, analysis, etc., have been considerable. Indigenously developed digital control system, data loggers, supervisory control and data acquisition (SCADA) system, etc., have been introduced in power, steel and chemical plants. Computers and other electronics systems have been introduced in coal mines for aiding exploration as well as information management purpose.

TABLE 7.2. PRODUCTION IN ELECTRONIC EQUIPMENT AND COMPONENTS

(Rs Crore)

S.No.	Item	1988	1989	1990	1991	1992
1.	Consumer Electronics	2,400	2,800	2,938	3,000	3,300
2.	Industrial Electronics	935	1,210	1,400	1,410	1,600
3.	Computers	486	700	820	830	970
4.	Communication and Broadcast Equipment	900	1,425	1,630	1,935	2,520
5.	Strategic Electronics	390	500	570	519	402
6.	Components	1,025	1,440	1,520	1,750	2,150
7.	Export Processing Zones	164	234	322	281	458
	Total	**6,300**	**8,309**	**9,200**	**9,725**	**11,400**

The computer industry has witnessed a growth of about 50 per cent in late eighties. The production of computers during 1992 was Rs 970 crore compared to Rs 280 crore in 1986. Computer systems based on 80,486 microprocessors with a speed of 50 MHz have been introduced. Almost the entire demand for floppy disk drives, dot matrix printers, CRT terminals, key boards, line printers and plotters are met from indigenous production. The indigenous production of maniframe systems have also been introduced by ECIL, and Digital Equipment. In the communication and broadcasting sector, production increased from Rs 504 crore in 1986 to Rs 2,520 crore in 1992. Telecommunication Commission was set up to promote rapid development in technology, production and services. It plans to increase digital exchange lines for 45 lakh in 1990 to 95 lakh by 1995, telex from 55,000 lines to one lakh lines and voice data connections for business from 10,000 to one lakh in the corresponding period. Strategic electronics sector covering areas of radar, navaid and allied fields has achieved a production level of Rs 402 crore in 1992 compared to Rs 222 crore in 1986.

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Some of the equipment like X-band radar, fire detection and alarm system, travelling wave tubes, etc., are being manufactured which have resulted in import substitution.

The overall production of electronics components increased from Rs 510 crore in 1986 to Rs 2,150 crore in 1992. Large capacities have been established for the manufacture of PCBs, hybrid circuits, B/W picture tubes, video magnetic tapes and cassettes, floppy diskettes, etc. The colour picture tube manufacturers have gone in for a higher level of vertical integration by establishing base for manufacture of electron guns and deflection yoke. Due to excess capacity for B/W picture tubes and monochrome monitors, the manufacturers are being currently pushed towards exports at competitive prices. The major projects implemented recently include those relating to manufacture of glass shells for B/W picture tubes, professional grade connectors for various applications, multi-layer chip capacitors, microwave components of different types and tantalum capacitors.

EXPORTS

Electronics exports increased from Rs 240 crore in 1986 to Rs 1,275 crore in 1992. An important feature during last year was the rising trend in export of both colour and B/W TV receivers. Computer software exports continued to rise, achieving a level of Rs 500 crore in 1992. Indian software enterprises have completed projects for reputed international organisations in 43 countries. To promote development and export of software through satellite data link, seven software technology parks (STPs), have been set up in Pune, Bhubaneswar, Bangalore, Hyderabad, Thiruvananthapuram, Gandhinagar, NOIDA, Calcutta and Jaipur. Export processing zone (EPZ) at Bombay provides an internationally competitive environment to electronic export. The country earlier had only one free trade zone at Kandla (Gujarat) which was a multi-product FTZ. Subsequently in the eighties, four more EPZs have been set up, namely, Cochin (Kerala), Falta (West Bengal), Madras (Tamil Nadu) and NOIDA (Uttar Pradesh). Electronics exports from the EPZs have increased from a modest Rs 25 crore in 1981 to Rs 458 crore in 1992. In order to facilitate the transition of Indian manufacturers to a globalised environment and to attract sizeable international investments in electronics, the Department of Electronics announced the Electronics Hardware Technology Park (EHTP) Scheme.

TECHNOLOGY DEVELOPMENT

The Department supports and funds technology development through its councils set up in various fields namely the Technology Development Council (TDC) for areas like components, computer communication and instrumentation, etc., the National Radar Council (NRC) for radars, navigational aids, sonars, underwater electronics systems, laser and infrared based detection/ranging systems, National Micro-electronics Council (NMC) for design and production technology of LSI/VLSI, ASICs, etc.,

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Electronic Materials Development Council (EMDC) for materials including special ceramics, high purity metals, gas, etc., and the National Photonics Council (NPC) for photonic related areas covering opto-electronics devices, optical data storage switching, imaging, vision informatics, etc. These councils also provide inter-ministerial forum for overall development including generation of production capabilities in their respective areas.

Time—bound projects in specific areas are being implemented through separate scientific societies like Centre for Development of Advanced Computing (C-DAC) which has developed 256 nodes PARAM parallel super computer of computing power 1G flops/7500 MIPs and Centre for Materials for Electronics Technology (C-MET) to establish technology for a range of electronics materials. Other funded projects like Fibre Optics System Development, Knowledge/Based Computer System (KBCS), Advanced Technology Programme on Computer Networking (ERNET), development of high-power devices, etc., are making satisfactory progress. To encourage application-oriented research, design and development, Electronics Research and Development Centres (ER&DCs) and Rural Electronics Technology Centre (RETC), Society for Applied Microwave Electronics Engineering and Research (SAMEER), National Centre for Software Technology, etc., are also being funded. The Department has launched a Standardisation, Testing and Quality Control (STQC) Programme for healthy growth of the industry. STQC laboratories have all the necessary infrastructure, controlled environment, test facilities, sophisticated test equipment, trained manpower and the test culture to carry out tests on products as per national and international standards as well as manufacturers' specifications.

The STQC laboratory has been approved by Underwriter's Laboratories (UL), USA and TUV, FRG for giving UL and GS safety mark to the Indian product. This helps them to compete in the international market. Currently, 34 countries are members of the system and free trade of electronic products approved under the IECEE scheme between these members countries is permitted. STQC Directorate has launched the "ISO-9000 Certification Scheme" known as 'SQ' scheme for electronics sector. It has also launched safety certification scheme in electronics sector covering safety requirements of all electronic products.

MANPOWER DEVELOPMENT

The Department of Electronics has been supporting projects relating to manpower and skill development. The programme on generation of special manpower for computers aims at bridging the gap between supply and demand of trained manpower for computers. Activities under this programme include providing funds for courses such as Cross Migration M.Tech., B.Tech., MCA, PGDCA, DCE, etc., and for training programme for teachers of DCA, MCA and ITIs. Seven Centres for Electronic Design and Technology (CEDT) have been set up for imparting training in design

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and manufacturing aspects of electronics products. The Department, in association with the Ministry of Human Resources Development, have launched a pilot programme for Computer Literacy and Studies in Schools (CLASS). Currently about 3,000 schools are participating in this programme. With the assistance of the World Bank and Swiss Development Cooperation, a project proposal has been formulated to improve the quality of training programmes in 14 engineering colleges and 12 polytechnics and five CEDTs for electronics engineers and technicians, in a manner relevant to the needs and growth of electronics industry in the country.

PUBLIC SECTOR UNDERTAKINGS

The Department has three public sector corporations under its administrative control: CMC Limited, Electronics Trade and Technology Development Corporation (ET&T) and Semi-conductor Complex Limited (SCL).The department also works closely with other PSU's like BEL, ECIL, ITI, BHEL, etc.

CMC LIMITED

CMC Limited set up in 1976 is committed to the creative use of computers and information technology tools in core sectors of the economy through applications which increase productivity and improve the quality of life. The revenue for 1992-93 was more than Rs 137 crore and the staff strength was more than 2,300 people at the end of the financial year. It provides hardware maintenance support to various equipments supplied by over 30 manufacturers. It coordinates implementation of project INDONET which is an integrated information management and distributing data processing facility spanning the entire country. Its consultancy and technical expertise includes applications like : computerisation of railway passenger reservation systems; economic load despatch management systems for electricity generating units; computerisation of banking operations; automatic message switching systems; ticketless trunk exchange in telecommunications; computerised fingerprint identification systems for police organisations; computer-based environmental monitoring systems, etc. CMC has executed turn-key projects in many important sectors like power, transport, oil, etc. Besides, it has also bagged many software developmental order from the international markets. As a major step towards globalisation, CMC acquired Baton Rouge International (BRI), a US-based company which provides comprehensive banking software and related services. BRI will afford CMC an entry into the international banking scene and also serve as a frontend for CMC's thrust into the US and Canadian markets.

ELECTRONICS TRADE AND TECHNOLOGY DEVELOPMENT CORPORATION (ET AND T)

ET and T was set up with objectives of expanding foreign trade in electronics and undertaking developments of technology in key areas. It

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has acquired a unit at Bhiwadi to manufacture computers and CTV chassis. It has taken up *Margdarshan* programme to spread education through electronics media in a wider sense *viz.*, curricular, vocational community development, adult literacy, children's education, general awareness on science and technology programmes and make available such educational video cassettes at an affordable price to the consumer. It has taken over total management of the Software Technology Park at Gandhinagar. It has also launched a shceme called 'Mini Stores' for large computer establishments, software centres and business houses for meeting their every day requirements of computer media *e.g.* floppy diskettes, computer tapes, ribbon, etc.

SEMI CONDUCTOR COMPLEX LIMITED (SCL)

Semi-conductor Complex Limited (SCL) was set up primarily to design, develop and manufacture LSI/VLSI circuits. SCL commenced commercial production in April 1984. Presently, SCL is concentrating on rebuilding its assembly, test and wafer fabrication facilities and has expanded its product portfolio to keep pace with the current market trends. The Company has also undertaken a turnkey project to set up a state-of-the-art Gallium Arsenide Enabling Technology (GAETEC) at Hyderabad. It has achieved full capacity utilisation in quartz analog watch-chip on board and electronic circuit block (QAW-COB and ECB) assembly lines. In addition, an assembly facility for packaging ceramic/cerdip devices has been established and trial production commenced in August 1991. Five VLSI design centres at NOIDA, Bangalore, Lucknow, Baroda and Bhubaneshwar are fully operational. A few application specific ICs were designed and fabricated at these centres and work on some others is in progress.

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

Established in 1942, Council of Scientific and Industrial Research (CSIR) is an autonomous body registered under the Societies Act, 1860 for the development of science and technology in India. CSIR today is a result-oriented well knit network of 40 research laboratories and 80 field/extension centres. It covers the entire gamut of R and D fields, barring nuclear energy. CSIR's expertise is embodied in about 6,500 scientists and engineers supported by over 20,000 technical and managerial personnel. Nearly a quarter of its annual expenditure of Rs 320 crore is met by R and D contract. It has developed about 2,000 technologies which have been licensed to over 5,000 parties. The cumulative industrial production based on CSIR technologies is of the order of Rs 10,000 crore and the savings to the economy due to productivity improvement is about Rs 2,000 crore. CSIR has contributed significantly to societal/technological/scientific missions. It also has made major contributions in the development of S and T manpower; it has supported about 32,000 research scholars through extra mural support schemes and 10,000 scientist pool officers. CSIR is the prin-

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cipal source for indigenous technology, S and T information and data-bases and a wide range of support services.

ACHIEVEMENTS

CSIR's major contributions have been in the petroleum, petrochemicals, drug and pharmaceuticals and agro-chemicals sectors. In petroleum and petrochemicals, CSIR made in-roads into some high-tech areas hitherto dominated by multinational companies (MNCs). The annual industrial production in this sector based on CSIR technologies is of the order of Rs 1,000 crore. Notable contributions are aromatics (benzene and toluene) extraction, xylene isomerisation, food grade hexane, ATF Pt-Re reforming catalyst, mild hydro-cracking and hydro dewaxing catalysts and novel ethyl benzene process.

In drugs and pharmaceuticals, CSIR has played a pivotal role in making India not only self-reliant but also a net exporter. CSIR has two pronged strategy; developing alternative and cost effective routes for known drugs *e.g.* Ibuprofen/ Flurbiprofen (anti-inflammatory), Norfloxacin/ Ciprofloxacin (anti-bacterial), S-Timolol (anti glaucoma), AZT (anti-Aids), Etoposide (anti-cancer), Vitamin B-6; metoprdol and nadolol-beta-blockers, and development of entirely new drugs *e.g.* Centchroman (contraceptive), Gugulipid (hypolipidaemic), Centbutindole (neuroleptic) and Centbucridine (anesthetic).

In the area of agro-chemicals, CSIR has developed processes for 30 pesticides. Important among these are Monocrotophos, Chlorpyriphos, DDVP, Butachlor pheromones and neem based pesticides. Around 25 percent of technical pesticides manufactured in the country are based on CSIR knowhow. Some recent technologies for other chemicals are sodium azide (export oriented) and oil field chemicals (import substitution).

BIOTECHNOLOGY

CSIR R and D has been in frontier and multidisciplinary areas of modern biology, biotechnology, etc. Recent achievements have been: (a) precocious flowering of bamboo through tissue culture: first time in the world; (b) micropropagation of tissue cultured economic trees and crops *e.g.* teak, sugarcane, eucalyptus, cardamom, turmeric, etc.; (c) food production from algae; (d) industrial alcohol production through improved yeast strains by genetic manipulation and (e) DNA fingerprinting, the second in the world.

FOOD AND FOOD TECHNOLOGY

CSIR has made valuable contributions to the food sector by developing technologies for conservation, processing and utilisation of food grains which play a big role in the food economy of the country. An important activity in CSIR has been the development of techniques for protection of stored food grains from pests and pesticidal formulations for all levels of storage *i.e.* for bulk storage in warehouses—durofume formulations; for

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bagged commodities—controlled release glass ampoules; for household level storage—fumigant tablets and sticks; and for packed processed food—ballooning techniques were developed at CFTRI. CFTRI- evolved improved parboiling process for paddy has enabled the reduction in processing time from over 50 hours to about four hours and yet yielding a product free from off-odour and toxins, it has been widely adopted all over the country. CSIR laboratories as participants in technology missions on oil seeds have developed several techniques and equipment to enhance the value and recovery of edible oil from oilseeds. The development of an economic one tonne FFB (Fresh Fruit Bunch) per hour capacity oil-palm mill unit, including the associated screw press, is significantly altering the socio-economic set-up in the palm oil regions of Karnataka and Andhra Pradesh. It has also developed thermal and chemical techniques for the stabilisation of rice bran.

LEATHER

CSIR maintains the world's largest specialised leather research institute-CLRI. It has played a decisive role in the development of leather industry in India, converting it from and exporter of raw hides and skins to an exporter of finished leather and leather goods. It has been a repository of data and information of leather and allied products and has been a pioneer in leather education. Recent achievements have been the development of: (a) fat liquors; (b) novel tanning chemicals: Alutan and Alcrotan having no international equivalents; (c) enzyme based hair depilant: environment friendly and first of its kind in the world; (d) automation of wet tannery operations: quality and productivity improvements; (e) effluent treatment plants: especially designed to serve the small and mini scale sectors and (f) seal and sink technique for upgrading lower ends of leather.

MATERIALS

CSIR's activities in the area covers glass, ceramics, alloys, composites and speciality materials. Some recent achievements have been: (a) special glasses: for attenuation of harmful nuclear radiations; laser range finders, infra-red and doped glasses for Defence applications, optical fibres for short haul communication; (b) titanium substrate insoluble Anodes (TSIA) for chlor-alkali industry, leading to power savings worth Rs 50 crore annually; (c) aluminium alloys: rivet wire for aerospace applications and graphite-aluminium alloys for specialised applications and (d) composite materials: carbon fibre rudders for MIG-21 aircraft, high density carbon-carbon composites for missiles, GFRP/CFRP structures for radomes and mobile radars.

COAL

CSIR achievements in coal technology include: (a) clean coal technologies: solvent refined coal and water-coal slurry fuel; (b) pioneering work on

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beneficiating Indian coals by washing, leading to establishment of several washeries;(c) environment friendly, improved Beehive Coke Oven for making metallurgical coke from low grade coal; (d) low temperature carbonisation technology for smokeless domestic fuel and (e) gasification of coal.

MINING

CSIR's activities cover mining methods and mine safety equipment, conservation and utilisation of mineral resources. Recent achievements in the field have been:(a) new methods of mining thick and difficult coal seams; (b) improved designs for roof support systems; (c) multipoint methane monitoring system; (d) mine communication and (e) rehabilitation of mine sites.

ENVIRONMENT

CSIR's activities cover environmental monitoring, environmental impact, risk and hazard assessment, carrying capacity of regions and effluent treatment management.

Some recent achievements: (a) Environmental Impact and Risk Assessment Studies: 100 studies in critical sectors such as oil, gas, petrochemicals, fertilizer, nuclear and thermal power sectors; (b) extended air quality monitoring: in 10 major urban centres and (c) technologies for: low cost, air pollution control in small lime/brick kilns and foundries; effluent treatment for leather, sugar and paper industries, catalytic converter for petrol-driven vehicles.

ELECTRONICS AND INSTRUMENTATION

Some recent achievements are: (a) process control instrumentation: for sugar industry adopted by over fifty factories and for paper and textile industries; (b) electronics for strategic applications: one mw magnetrons, one kw klystrons for Defence, 6 GHz TWT for space and automatic visual range assessor for aircraft landing; (c) medical electronics: 4MeV linear accelerator for cancer therapy and (d) scientific instruments: five crystal-X-ray diffractometer, P.C. based U.V. Spectrophotometer, portable digital soil salinity tester, atmospheric corrosion meter.

MACHINERY

CSIR's R and D has contributed to the development of machinery, equipment and sub-systems for use in industrial, agricultural, food processing and other sectors. Some recent achievements are: (a) machinery for productivity improvement: two-needle and five-thread safety stitch sewing machine, high speed cloth cutting machine, leather stitching machine, improved oil expeller, sunflower decorticator, *papad* press, *chapati* making machine and rope making machine; (b) equipment for safety improvement: hydraulic and friction props, chocks, methane meters, pneumatic multi-axis

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manipulator and automatic guided vehicle for hazardous operations leading to reduced occupational health hazards.

CONSTRUCTION TECHNIQUES

CSIR's R and D covers development of new designs/processes/techniques/materials and computer and software for buildings, structures and construction industries. Some recent achievements: (a) building materials: prefabricated roofing and flooring units, flyash bricks, lightweight concrete, plastic composite panels, wood substitutes, sealants and coatings; (b)roads: rural and border road construction technology, pavements testing and slope stability/landslide studies;(c) software and expert systems: for free standing steel lattice microwave and transmission line towers, cooling towers, longspan and ship structures and (d) equipment: miniclimbing crane, aggregates concrete, block making machine, semi-automatic brick moulding machine.

PUBLICATIONS

CSIR publishes three popular scientific periodicals in English, Hindi and Urdu. To help provide communication links among the scientific community it publishes eleven journals of international repute covering practically all the major disciplines of science. To create an awareness of India's resources, an encyclopedic monograph "*Wealth of India*" has been brought out by CSIR in two series *viz Raw Materials* and *Industrial Products*.

INTERNATIONAL COLLABORATION

CSIR recognising the need of international cooperation in science and technology has established bilateral cooperation arrangements with 28 organisations in 21 countries including nine developing countries. It represents the Government of India on the Commonwealth Science Council (CSC) and the Association for Science Cooperation in Asia (ASCA). To enlist cooperation of Indian professionals abroad in the advancement of science and technology in India, CSIR has two programmes: TOKTEN (Transfer of Knowledge/Knowhow Through Expatriate Nationals) and INRIST (Interface with Non-Resident Indian in Science and Technology). These programmes enable Indian experts abroad to visit India for short-term and exchange experience with scientists/technologists working in India.

OCEAN DEVELOPMENT

India's coastline is more than 6,000 km long and its territory includes 1,256 islands. Its exclusive economic zone covers an area of 24 lakh sq km and the continental shelf extends upto 350 nautical miles from the coast. Indeed the domain for the development of oceanic resources and protection of the marine environment extends from the coastal lands and islands to the wide Indian Ocean. Government of India set up the Department of

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Ocean Development in 1981 to promote and coordinate the multifaceted endeavour needed to accomplish the task, as well as to develop the new emerging area of Antarctic research and deep seabed mining.

OBJECTIVES

The objectives of development of the oceanic regime are (i) to provide the morphology and structures of the sea floor and underlying geological features, as well as of the overlying dynamic layers of water; (ii) to harness and manage its resources (minerals, energy, biomass, chemicals, drugs and other exotic materials) and create additional resources notably high grade chemicals, such as potassium and iodine and marine living resources through mariculture; (iii) to cope with and protect its environment (safe navigation, weather, support for marine resource exploitation and management, protection to coastal zone from pollution and wave action); (iv) to develop human resources knowledge, expertise and innovative skills; (v) to play our rightful role in marine science and technology in the international arena.

EIGHTH PLAN OBJECTIVES

Eighth Plan objectives of the Department are: (i) to modernize the basic and underpinnings required for an efficient approach to exploration, exploitation, surveillance and management of marine resources and environment particularly of the coastal ocean, as well as to design and develop technological packages that would catalyze self employment activities in the coastal areas and islands; (ii) to effectively safeguard long term national interests in the global commons: (a) polymetallic nodules from the deep sea in the central Indian Ocean and (b) Antarctica; (iii) to develop viable marine infrastructure and expertise in this high S and T area of wide international interface, to be able to support important national interests.

ANTARCTIC RESEARCH PROGRAMME

Antarctica provides an excellent opportunity for the conduct of scientific research for the benefit of all mankind. It is a pristine laboratory, of worldwide significance, which has enabled researchers to detect and monitor, global environment phenomena such as the depletion of atmosperic ozone, global warming and sea level changes. Antarctic meteorological research has provided data essential to forecasting in the southern hemisphere. Glaciological research provides important information about the heat exchange budget and Antarctica's influence on weather and climate. Geological and geophysical research in Antarctica provides new insights into global geological history and the formation of continents. The earth's geomagnetic field makes Antarctica particularly well suited to the study of solar-terrestrial interactions and cosmic rays which travel from outside our galaxy. The environment of Antarctica provides unique opportunities to study the specialised adaptations of organisms with their environment and biological research is providing data essential for decision-making about marine

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living resources. Human biology and medicine provides information on the physiological adaptation of man to extreme climates and isolation.

The Antarctic Treaty parties are fully committed to scientific research in Antarctica. Parties have long recognised the fundamental role that Antarctica plays in understanding global environmental processes and the unique opportunity it provides for research. The initiation, promotion and coordination of the Indian Antarctic research, which commenced with the launching of the first expedition during 1981 continues over a very wide range of scientific activities.

The Antarctic research activities have become a regular feature since 1981-82. Scientific research expeditions were sent every year. A second permanent station (indigenously designed) '*Matri* was established in the ice-free area about 70 km away from *Dakshin Gangotri*, which was established as the first year round base during 1984-85.

OBJECTIVES

The Indian Antarctic Research Programmes have been designed to take advantage of the unique site and environment of Antarctica towards understanding the key global processes that govern our future well being. The scientific programmes are essential part of, and rooted in these long-term programmes: (a) ice-ocean atmosphere system in Antarctica and global environment; (b) Antarctic lithosphere and Gondwanaland reconstruction, frame-work for delineating plate tectonic processes and assessment of mineral resources and hydrocarbons; (c) Antarctic ecosystems and environmental physiology, (d) solar terrestrial processes; (e) innovative technologies for support system; (f) environmental impact assessment and (g) generation and structuring of data bases (geological topographic, thematic mapping and ecosystems changes, environmental parameters, health care).

More than twenty research institutions, universities and government departments have contributed to the success of the Antarctic Research Programme. Invaluable logistic support for these activities has been provided by the three Services-Army, Navy and Air Force and by DRDO. The Indian Antarctic programmes have provided research and first hand learning opportunities to 883 persons from different institutions and agencies, including 639 from the Armed Forces and 244 scientists. It has encouraged development of indigenous technology in specified fields. The annual expeditions to Antarctica since 1981 helped to prepare a viable ground for front ranking research endeavours in basic and environmental sciences and have won for India a well deserved recognition amongst the Antarctic Treaty Nations. India has consultative status in the Antarctic Treaty System. It is a member of the Scientific Committee on Antarctic Research and party to the convention for the conservation of Antarctic marine living resources.

The Antarctic Treaty Consultative parties, who after six years of negotiations had earlier agreed on a convention for the Regulation of Antarctic Mineral Resources Activities (CRAMRA) in June 1988, decided to work and

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agree for a new instrument for the establishment of comprehensive measures for the protection of the Antarctic environment, in October 1989. A new protocal on the protection of the Antarctic environment which included a prohibition of commercial mining in Antarctica for 50 years was agreed to for which India worked relentlessly. The protocol on environmental protection to the Antarctic Treaty was adopted in October 1991 which was signed by all the 26 consultative parties, including India.

ANTARCTIC STUDY CENTRE

The Antarctic Study Centre started functioning in a rented accommodation at Vasco during 1992-93. Two officers have been posted at the Centre and it had carried out part of the work relating to launching of the 12th Antarctic expedition. Phase-I of the construction activity of the Centre at the site allotted by the Government of Goa has been initiated. The administrative logistic and residential blocks would be completed during this phase. The Centre when it becomes operational, will formulate national scientific programmes, provide logistic support to expeditions, develop specialised laboratory facilities, create repository of Antarctic data and literature and sustain multi-disciplinary research. Steps were taken to develop an information system for the centre and acquire scientific equipments.

DEEP SEABED EXPLORATION

As a result of pioneering work done in the area of deep seabed exploration, with special emphasis on the location and processing of polymetallic nodules, India was recognised as a pioneer investor in 1982. A mine site of 1,50,000 sq km in the central Indian Ocean was alloted by the Preparatory Commission for the International Seabed Authority in August 1987.

India was the first country in the world to get pioneer investor status in August 1987 on the basis of delineation of a prospective area covering 3,00,000 sq km The survey and exploration efforts till now have been directed mainly to assess the relative concentration and quality characteristics of nodules and broad seabed topography. The sampling grid has been progressively reduced from 100 km to 25 kms and later to 12.5 km to get more accurate information on nodules abundance. The survey for mapping and detailed bathymetry of the pioneer area has been subsequently strengthened by the use of a multi-beam swath bathymetric system (hydrosweep) on *ORV Sagar Kanya.* The survey of the entire pioneer area of 1,50,000 sq km has been completed by using the Hydrosweep. About 70,000 line km gravity data and 2,65,000 km magnetic data has been collected. Environmental data, baseline oceanographic data on physical, chemical and biological parameters has also been collected. High resolution bathymetric maps of the pioneer area covered during the research cruises have been prepared which give the detailed topography of the area enabling the identification of sea mounts and slopes which cannot be negotiated by mining equipments. The work on design and development of a mining system was entrusted to the Central Mechanical Engineering Research

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Institute (CMERI), Durgapur, in 1989-90. The first phase of the project has been completed.

Development of high technolgies has correspondingly higher innovative potential with widespread spin-offs that progressively extend the opportunity base for many national activities that have to be performed in difficult environmental conditions. The technology being developed for the Nodule collector unit, hydraulic and air lift systems, remotely operated vehicles, water proofing of electrical and hydraulic components and electric power transmission equipment, etc., has potential for use by organisations like IOC, ONGC, NPC and GSI in the exploration of EEZ resources.

The technology developed for exploration and extractive metallurgy will be relevant for: (i) sharpening the imageries of seabed (bathymetry) of EEZ as well as the deep sea bed (ii) increased understanding of the ocean system (physical, chemical and biological) (iii) exploration and exploitation of other seabed resources, *e.g.* sulphides, metalliferrous muds, cobalt custs, phosphorities and (iv) metal extraction from non-conventional mineral resources such as nickel laterites or multi-metal sulphides through hydrometallurgical techniques.

EXTRACTIVE METALLURGY

Fifteeen process routes for extraction of metals from nodules were initially selected for investigation of which three routes were chosen for upscaling. A process following the reduction roast Ammonia leach route was developed at the National Metallurgical Laboratory, Jamshedpur, on a bench scale, scaled upto 100 kg of nodules per day and a pilot plant commissioned. Three pilot plant compaigns for obtaining energy and material balance have been completed during the year at this pilot plant.

The Ammonia Sulphurdioxide leach route was developed at the Regional Research Labortory, Bhubaneswar, and a pilot plant of 150 kg nodules capacity per day was established. Three campaigns have been completed during the year at the pilot plant and data gaps and problem areas have been identified. The additional campaigns and experiments required in areas such as as reduction roasting, continuous leaching, improvement in cobalt recovery, application of different reagents for metal separation, production of cobalt/metal from cobalt chloride crystals, automation in solvent extraction-electrowinning have been identified for future improvements and firming up of the design parameters of a semi-commercial plant.

EXPLORATION OF LIVING AND NON-LIVING RESOURCES

India's ocean development activities cover territorial sea extending upto 12 nautical miles, exclusive economic zone of 200 miles and continental shelf extending upto 350 nautical miles. In addition, India has also been allocated a mine site of 1,50,000 sq km in the central Indian Ocean. The estimated potential of living resources in India's EEZ is about four million tonnes of which 2.44 million tonne is currently exploited mostly from shal-

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low water depth of 50 metres. The polymetallic nodules on the ocean floor are considered to be rich in manganese, copper, cobalt and nickel.

The two ocean going research vessels *viz. ORV Sagar Kanya* and *FORV Sagar Sampada* have been deployed for the scientific exploration of the oceanic resources and its environment. Upto March 1993, they have devoted 186 research cruises for this purpose. The information generated by this activity is also supplemented to some extent by the coastal vessels operated by the Geological Survey of India and Ministry of Mines.

COASTAL ZONE AND ISLANDS

The Department has designed a major programme on coastal zone and islands for implementation during the Eighth Plan.

The socio-economic objectives of this programme is to provide data and decision support for the management of resources of the coastal zone and islands and their environment. The key element of this programme is the marine information service to provide a rational basis for optimal land use design in coastal areas, identification of more productive uses of certain types of wetlands, risk maps of coastal areas for possible sea level rise and attendant increase in the frequency and ferocity of cyclones, identification of areas threatened with erosion and pollution for remedial measures.

The operational elements of this programme include (i) a satellite based real/semi real time marine information service (MARSIS). Under the MARSIS programme value based ocean data products are generated at National Remote Sensing Agency (NRSA), Hyderabad, and Space Application Centre (SAC) Ahmadabad. The satellite data/data products are validated by the National Institute of Oceanography (NIO) Goa and disseminated to the end users by the MARSIS centres of the Department of Ocean Development. The remotely sensed data together with sea truth data are also used in the development of predictive models by the Centre for Mathematical Modelling and Computer Simulation (C-MMACS), Bangalore; (ii) systematic monitoring and modelling of the marine environment along the entire Indian coastline and islands (COMAPS); (iii) precision sea level measurements at selected stations along our coasts and islands using modern tide gauges (SELMAM); (iv) close contour level survey of coastal areas for risk assements due to sea level variations; (v) design of integrated breakwater- wave power generating system, (vi) technology demonstration to promote development of new additional resource, *e.g.* prawn cluture and (vii) prediction of storm surges and their impact on coastal geomorphology, assessment of extent of inundation of sea water.

MARINE INSTRUMENTATION AND SYSTEM

The objective of this programme has been to undertake design and development of marine instrumentation and systems relevant for generating critical information for supporting exploration and resource harvesting activities. An Inter-Departmental Steering Group on Ocean Instruments

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and System constituted in March 1990 identified acoustic equipment for fish detection, data buoys, underwater sonar systems for development by national institutions like the National Physical Oceanographic Laboratory, New Delhi, National Geophysical Research Institute, Hyderabad, National Institute of Oceanography, Goa, Indian Institute of Science, Bangalore, Indian Institute of Geomagnetism, Bombay, etc. As a result of research and development work on marine instruments initiated earlier, the development of these instruments were completed: (i) Vector-Averaging Recording Current Meter (VARCM); (ii) Free Fall Recording Bathythermograph and (iii) Microprocessor based instrumentation for ocean parameter studies.

During 1991-92, a pilot project for the development of vessel to shore communication system was taken up. Under this project 1,000 walkie-talkie sets and 1,000 compass sets are to be distributed to marine fishermen and two shore stations each in Andhra Pradesh, Tamil Nadu, Kerala and Karnataka are to be established. The first shore station at Manginapudi near Machilipatnam in Andhra Pradesh was commissioned on 29 January 1993. Fortyfour walkie-talkie sets were distributed to fishermen operating traditional fishing boats, fibre glass boats and beach landing crafts.

To achieve an accuracy better than one mm and to replace the age old conventional tide gauges of Survey of India to measure and monitor the changes of sea level including its mean, an optical shaft encoder 8 cm dia brass screw transducer and float weight mechanism has been developed by Western Regional Instruments Centre, Bombay under a project funded by the Department. It has also taken up the work of creating backup facilities for scientific instruments on sea going vessels owned and operated by various departments of the Government. This work has been entrusted to the Instrumentation Limited, Kota.

Based on the Research and Development marine instrumentation completed during 1992-93 a few more instruments such as (i) microprocessor based instrumentation system for measuring nutrients of sea water, (ii) microprocessor based instrumentation system for measuring marine pollution parameter, (iii) development of moored buoy for continuous monitoring of sea parameters for the purpose of identifying marine fish and (iv) further R and D work to improve the tide guages programmes to incorporate the modern technology etc. are proposed to be taken up.

Under a project funded by the Department, a few low cost drifting buoys were designed and fabricated by National Institute of Oceanography (NIO) Goa with the aim of collecting sea truth on sea surface temperature (SST) and circulation required for validating the data obtained from remote sensing statellites.

RESEARCH, DEVELOPMENT AND SPECIALISED MANPOWER

A unit for post graduate training and research in ocean circulation and air sea exchange processes has been established at the Indian Institute of Science, Bangalore. A cell each at the IIT, Madras and Jadavpur Univer-

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sity, Calcutta, have also been established for coastal ocean design and predictive system. A project for setting up a scaled up unit for recovery of potassium chloride from mixed salt was tried at the Central Salt and Marine Chemicals Research Institute, Bhavnagar. With a view to developing a sound manpower base in ocean sector the Department of Ocean Development has been promoting basic research in ocean sciences. Efforts have been made to create facilities at universities, research institutions and IITs by providig fellowships and associateships. Facilities on research vessels *ORV Sagar Kanya* and *FORV Sagar Sampada* have also been extended to participants from universities.

Twenty-one research and development projects are under execution at various institutions/laboratories/IITs which include eleven projects on development of potential drugs from the ocean. Other research and development programmes are: development of fishing gear, studies on marine micro organisms, automated shore information system, sediment-water interaction in Godavari-Krishna estuarine and shelf regions, mariculture of lobsters, study of Bengal Fan and integrated study of coral reef in Andaman and Nicobar Islands, etc.

The National Project on Development of Potential Drugs from the sea was initiated in November 1990 with participation of 10 laboratories. The Central Drug Research Institute, Lucknow, was selected to coordinate the activities of all the centres. During the course of investigations in the first phase of this project promising activity has been observed in 34 per cent of marine biota studied while in the land organisms only 21 per cent has significant activity. Even more interesting is the fact that certain types of activities are obtained from marine biota which are rare and non-existent in terrestrial fauna and flora. As a result of biological screening 51 marine organisms have been identified for follow up work.

ACHIEVEMENTS

Major achievements during 1992-93 through the activities of the Department include the following: (i) completion of the eleventh scientific expedition and launching of twelfth expedition to Antartica in December 1992 and continuation of scientific research programmes in fields of atomospheric sciences, meteorology, biology, oceanography, earth sciences etc.; (ii) completion of all preliminaries for construction of Antarctic Study Centre at Goa, including environment clearance; (iii) Survey of the mine site (pioneer area) of 1,50,000 sq km allotted to India completed; (iv) erection of pilot plants for extraction of metals from nodules at the National Metallurgical Laboratory (NML), Jamshedpur and Regional Research Laboratory (RRL), Bhubaneswar and pilot plant compaigns for obtaining material and energy balance; (v) completion of the first phase of research and development work on a scaled down mining system at the Central Mechanical Engineering Research Institute (CMERI), Durgapur; (vi) completion of ten multidisciplinary research cruises of *Sagar Kanya* and thirteen of *Sagar Sampada* and

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demonstration of the performance of the deep trawl designed and developed at the Central Institute of Fisheries Technology (CIFT); (vii) dissemination of potential fishery zone information to fisherman through their cooperative societies in Andhra Pradesh, West Bengal, Orissa, Tamil Nadu, Kerala, Goa, Maharashtra, Gujarat, Lakshadweep and Andaman and Nicobar Islands through the Department's Marine Satellite Information Service (MARSIS) centres; (vii) identification of forty hot-spots along the coastline for monitoring the sources of pollutants under the Pollution Monitoring Programme; (ix) critical analysis of the performance of wave power plant at Vizhinjam and techno-economic feasibility studies for construction of integrated wave energy system at Thangassery in Kerala and Mus Point in Car Nicobar Islands; (x) completion of the first crop of prawn culture in Andamans achieving a production rate of 1.25 tonne per hectare; (xi) commissioning of the first shore station at Machilipatnam in Andhra Pradesh for operationalisation of shore to fishing vessel two-way communication system; (xii) preparation of feasibility report on design and development of a submersible through the Naval Science and Technological Laboratory (NSTL), Visakhapatnam; (xiii) strengthening of capabilites of data collection and processing at the Central Pollution Board, Calcutta and Regional Research Laboratory (RRL), Thiruvananthapuram, under the project on National Ocean Information System (NOIS); (xiv) identification of 51 marine organisms under the National Project on Drugs from the Sea and detailed biological and chemical investigations resulting in valuable leads in most of the major areas of biological activities.

A major new initiative related to the establishment of National Institute of Ocean Technology (NIOT) in Madras as an autonomous body under the Department. The objective of the Institute will be to develop indigenous technologies in ocean sector.

BIOTECHNOLOGY

Department of Biotechnology established in 1986 has made concerted efforts to establish a strong base of research and development, infrastructure facilities and training of manpower for accelerated development of biotechnology. Several measures have been taken to simultaneously ensure mechanisms for application of this important field for socio-economic development through demonstration projects and technology transfer activities. Demonstration activities have produced an impact in the rural areas specially through programmes of biofertilizers, biological pest control, aquaculture projects and embryo transfer technology. The actions initiated by the Department in the area of human health in the form of diagnostics and vaccines as well as introduction of oil palm for reducing the edible oil gap are ready to bear fruit. The biotechnology information network is fully operational nationally. The Department has identified priority areas in which during the ensuing years major research and development activities would be mounted. Special programmes have been launched for the

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benefit of SC/ST population in terms of employment generation and improvment in the living standards, nutrition and health, etc. The Department has pursued with some countries, collaboration in the field of biotechnology.

A unique feature of this Department has been use of the existing expertise and infrastructure without creating many new institutions. It has functioned with the advice of two major committees, namely, (a) Scientific Advisory Committee (SAC-DBT) comprising eminent scientists and technologists, and (b) Standing Advisory Committee (Overseas) (SAC-(O) with overseas non-resident Indian scientists from USA as members, who have been interacting very closely with the Indian scientific community through DBT. On the recommendations of SAC-DBT 13 task forces in various priority areas of biotechnology have been set up with a view to examining and monitoring the new and ongoing projects.

MANPOWER DEVELOPMENT

The manpower development programme aims to generate a critical mass of well trained scientific personnel for R and D teaching and manufacturing and extension work. The Post-Graduate and Post-Doctoral Teaching Programme in Biotechnology sponsored in 25 universities and institutions is in collaboration with Ministry of Human Resource Development, UGC, ICAR, ICMR and Department of Ocean Development. Short-term training courses of three-four week duration are sponsored. During 1992-93, about 100 mid-career scientists have been trained. So far 131 scientists have availed of the Biotechnology Overseas Associateship in different countries.Ninety scientists have worked under the National Associateship Programme in various national research institutions/universities and 12 short term training courses for industrial R and D personnel have been conducted. Other activities like computer software as teaching aid, DBT scholarship in biology, school teacher's training programme, biotechnology publications, popular lectures, and production of films in the field of modern biology are being continued.

INFRASTRUCTURE FACILITIES

In order to help scientists working in the area of biotechnology the Department had established certain facilities, namely, germ plasm banks (microbial type culture collection, blue green algal collection, marine cyanobacteria and plant tissue culture repository), animal house facilities, biochemical engineering research and process development, genetic engineering units, oligonucleotide synthesis, etc. The animal house facilities at Central Drug Research Institute, Lucknow and National Institute of Nutrition, Hyderabad have together supplied more than one lakh laboratory animals covering 20 species to various scientists working in the area of biomedical research. The biochemical engineering research and process development facility has acquired computer controlled fermentation system ranging 30 ltr to 1500 ltr capacity.

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IMMUNODIAGNOSTICS

A number of programmes have been taken up to develop simple, easy to use, inexpensive but sensitive diagnostic kits for early detection of a number of communicable and non-communicable diseases. Scientific investigations are being carried out at six institutions, *viz.*, Central Drug Research Institute (CDRI), Lucknow, Post Graduate Institute of Medical Education Research (PGIMER), Chandigarh, National Institute of Health and Family Welfare (NIH & FW), New Delhi, SN Medical College, Agra and Institute of Post Graduate Medical Education and Research, Calcutta. The technology transfer of seven products that has taken place so far include the amoebic liver abcess, hepatitis-B, blood grouping, typhoid (blood test), preganancy detection, (all developed by the National Institute of Immunology, an autonomous body under DBT), typhoid (urine test) (developed by AIIMS, New Delhi) and filariasis (urine test) (developed by Mahatma Institute of Medical Sciences, Wardha). Technology for diagnois of leishmaniasis, a quantitative test for typhoid fever, as well as reproductive hormones are ready for transfer to industry. To facilitate faster pace of development of immunodiagnostics a pilot plant has been set up at the National Institute of Immunology (NII) New Delhi.

VACCINE PRODUCTION

Government intensified the efforts of the Expanded Programme of Immunisation of 1978 for immunisation against vaccine preventable diseases by launching the Universal Immunisation Programme in 1985 and also a National Technology Mission on Immunisation in 1986. The Mission has been entrused with the responsibilities of (i) research and development of new and improved vaccines and (ii) indigenous production of vaccines to achieve selfsufficiency.

The Department of Biotechnology has promoted two new research and development cum manufacturing units in the country namely Bharat Immunologicals and Biological Corporation Limited (BIBCOL) at Bulandshahr (UP) and Indian Vaccine Corporation Limited (IVCOL), Gurgaon, Haryana. Both the companies have already made considerable progress in recuirtment and training of scientific personnel, procurement of equipment and machinery and civil construction of the plant and utilities.

IMMUNOLOGICAL APPROACHES TO FERTILITY CONTROL

A composite programme of "Immunological Approaches to Fertility Control" is being undertaken through eight projects in NII, New Delhi, PGIMER, Chandigarh, IISc. Bangalore, CDRI, Lucknow, Institute for Research in Reproduction, Bombay and NIH and FW, New Delhi with an objective of developing safe, efficacious, cost-effective, durable and reversible contraceptive vaccines for control of fertility in human males and females. The NII, New Delhi has developed an antifertility vaccine for

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human female called B-hCG. The Phase I and II clinical trials of this have already been completed and the Phase III trials are expected to commence very soon. One of the project at IISc., Bangalore has developed o-FSH vaccine for antifertility in human males. This vaccine after successful completion of trials in sub-human primates, is being tried in humans.

Two projects one at Indian Institute of Science, Bangalore and another at Institute of Research in Reproduction, Bombay have carried out research to demonstrate the termination of pregnancy by interrupting B2 carrier protein through antibodies. The studies undertaken so far indicate good corelation between the immunologial interference of the target protein and termination of preganancy. The project at CDRI, Lucknow is working on development of potent and non-toxic immunoadjuvants for incorporation in the contraceptives.

CROP BIOTECHNOLOGY

Significant progress has been made in the development of single gene based gene(s) transfer systems for crops. Some of the ongoing projects are on the use of RELP, molecular mapping of rice, mitochondrial DNA, development of disease resistant varieties, production of somatic hybrids through protoplast and molecular confirmation in brassica. In rice, RPLF technology has been used in rice genetics and breeding. Successful application of these modern techniques in tagging genes for rice blast disease resistance and bacterial leaf blight has been carried out. Embryonic call in 19 varieties of indica and japonica rice have been established and protocols for regeneration of plants from leaf base protoplasts have been standardized. In rape mustard, several somatic hybrids produced through protoplast fusion and their molecular characterisation through RFLP were also completed. In chickepea, several cell lines resistant to Fusarium wilt and Ascochyta blight have been established.

In addition, six major centres for Plant Molecular Biology at Jawaharlal Nehru University, New Delhi; Madurai Kamraj University, Madurai, Tamil Nadu Agricultural University, Coimbatore, National Botanical Research Institute, Lucknow, Osmania University, Hyderabad and Bose Institute, Calcutta have been set up. In JNU-centre isolation and characterization of genes encoding seed storage proteins from Grain Amaranthus, a nutritionally important gene encoding lysine rich protein (Am A i) has been cloned.

ANIMAL BIOTECHNOLOGY

Upstream research on embryo technology, animal health care, nutrition and growth promotion have been undertaken. Considerable progress has been registered in research and development programmes pertaining to bioactive compounds from marine organisms, transgenic fish production, cryopreservation of embryos, indigeneous feed development and trials.

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AQUACULTURE

To demonstrate the techno-economic viability of semi-intensive prawn culture, a three year programme was initiated. Production levels of 8-10 t/ha/year in two crops were aimed at. The first two crops showed 8.5 t/ha/year. The latest crop showed an overall production level of 4.9 t/ha/crop. The highest production levels touched were 6.9 t/ha/crop.

CARP PRODUCTION

To demonstrate production levels upto 25 t/ha/year in intensive carp culture, the project has already clearly shown production levels of 10 and 15 t/ha/year. Experiments are underway to touch 25 t/ha/year level.

BIOMASS USING PLANT TISSUE CULTURE

Two tissue culture pilot plant units set up by the Department in 1989 at the National Chemical Laboratories, Pune and Tata Energy Research Institute New Delhi are implementing the programme of mass propagation of nationally important elite forest trees using tissue culture micropropagation techniques and conduction of field verification trials of tissue culture raised plants in cooperation with the various state forest departments throughout the country.

Fourteen nationally important forest tree species have been identified for undertaking work on production of biomass (fuel, fodder, timber and commercial industrial woods) using tissue culture technology. R and D projects include developing and standardising know-how protocols for complete plantlet regeneration for selected tree species. In addition, projects have been initiated to develop methods to improve varieties and faster methods of multiplication of horticultural and plantation crops.

BIOLOGICAL CONTROL OF PESTS AND DISEASES

At present there are 24 projects under the aegis of Biocontrol Network Programme which was started in 1989 with ten. Out of the 24 projects, 13 projects sanctioned during the current financial year are being implemented at various institutions.

The main objective of this network programme is to lay greater emphasis on developing formulation and pilot scale production technologies for mass production of biocontrol agents and their large scale use in the farmer's field, and also for integrated pest management of key pests and diseases. Two biological control pilot plant (BCCP) units at Coimbatore and Madurai have been established for mass production of biocontrol agents with a view to promote commercialization of biopesticides technology with the assistance from Biotechnology Consortium India Limited (BCIL) and DBT at Centre for Plant Protection Studies, Coimbatore and Agriculture College and Research Institute, Madurai. Each BCPP is producing biocontrol agents to cater to the needs of 10,000 ha/year of regional crops

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of chickpea, groundnut, cotton, sunflower, tobacco, castor, sugarcane, blackgram, green gram and sesamum to manage pests and diseases.

Trainings were also imparted to scientists from ICAR institutions, state agricultural universities, sugar factories, educated farmers, private entrepreneurs and unemployed youth on the production and management strategies at four centres BCC, Bangalore; GAU, Anand; MAU, Parbhani and TNAU, Coimbatore. A series of travel workshops-cum-farmers *mela* were organised to create wide awareness among the farmers about the large scale use of biopesticides.

BIOFERTILIZERS

Integrated, interdisciplinary, multi-institutional programme on technology development and demonstration of biofertilizers blue green algae (BGA) and rhizobium has been implemented at six centres in the country depending upon the agro climatic conditions. These are (i) Madurai Kamraj University, Madurai (ii) Tamil Nadu Agricultural University, Coimbatore (iii) College of Agriculture, MPK, Vidyapeeth, Pune (iv) Council of Science and Technology, Uttar Pradesh Secretariat, Lucknow (v) Ramakrishna Ashram, South 24, Parganas, West Bengal and (vi) National Facility for Blue Green Algal Collections, IARI, New Delhi. Over 420 open-air production units have been commissioned and about 20 tonnes of soil based algal biofertilizers and 5,000 packets of fresh suspension of different algal strains have been produced for distribution to farmers as well as for field demonstration. On an average, through the application of BGA, increase in rice yield was observed from 7-9 per cent.

OIL PALM DEMONSTRATION PROJECTS

Oil palm demonstration projects (ODPs), launched during 1988-89 in Andhra Pradesh, Karnataka and Maharashtra have demonstrated the feasibility of oil palm cultivation under irrigated conditions over an area of about 1000 ha in each of the three states over a period of five years. Fruiting is expected to commence from 24-30 months after field planting. In Maharashtra the project is being implemented through the Department of Industries by the Development Corporation of Konkan Limited, a public sector corporation of Government of Maharashtra. In Andhra Pradesh and Karnataka, their respective Horticulture Departments are implementing the project on farmers' land. The projects budgetory cost is shared on a 50:50 basis between the Centre and the concerned state governments.

TISSUE CULTURE OF CARDAMOM

This project has been initiated in order to demonstrate enhanced productivity and production through elite high yielding tissue culture clones of cardamom in cardamom cultivated areas like Kerala, Karnataka and Tamil Nadu dividing the area into 100 units of one hactare each. The DBT in collaboration with Spices Board and Ministry of Commerce launched the

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present project with the aim of demonstrating the performance of high yielding *in-vitro* cardamom clones. In each selected unit, performance of elite clones of cardamom best suited to the specific one is to be demonstrated by planting eighty per cent of the area with tissue culture plantlets and the balance area with open pollinated seedlings for comparison. Fruiting is expected to commence from the second year after field planting. Production and productivity are expected to go up by five-six times the current average of 60-65 kg/ha/year.

BIOTECHNOLOGY INFORMATION SYSTEM

A national network of distributed information centres (DICs) and distributed information sub centres (DISCs) in specialised areas of biotechnology under its Biotechnology Information System (BTIS) Programme has been established. The network provides a complete information source on (a) genetic material as hard data (Eg. DNA, Protein and Nucleic Acid Sequences, Gene Banks etc.) (b) soft information (Eg. Bibliographic References through DIALOG, COROM etc.) and Management Information. Ten DICs and 19 DISCs in specific areas have been established as in March 1993. These centres provide linkages with some international network such as DIALOG, USA and ICGB net, Italy. A ten-day workshop-cum-training programme on "Plant Biotechnology Information Management' was organised jointly by DBT, ICAR and FAO at New Delhi in April 1992.

INDUSTRIAL BIOTECHNOLOGY

Efforts are being made to develop products and processes with specific need based inputs so as to transform semi-finished R and D results into industrially usable products. The Task Force on Industrial Biotechnology helps in identifying such projects. Currently 22 ongoing, product oriented projects are being worked upon which will include areas for the development of diagnostic kits, liposome intercalated drug delivery system, biotechnological methods for enrichment of ores, establishing field data on efficacies of bio-pesticides, selection of efficient plant cell lines in sugarcane and their multiplication through tissue culture, field trials of tissue culture raised bamboos in different agro-climatic conditions, development and multiplication of elite clones, gene cloning and gene expression of epidermal growth factor in *E.coli*, optimization of process parameters for the production of enzymes and carbohydrates, standardisation of production process for edible mushrooms and process development of high fructose syrup. The areas include agriculture, forestry human and animal health, as well as industrial products. The Biotech Consortium India Ltd. (BCIL), has played the role of a catalyst in bridging the gap between R and D industrial and financial institutions.

INTERNATIONAL COLLABORATION

International research and development cooperation programmes have

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been taken up with Federal Republic of Germany, Switzerland, USA, United Kingdom, Sweden, Vietnam, Poland, Netherlands, China, Cuba, Brazil and some other countries. A programme of cooperation in biotechnology has been developed among the members of SAARC countries in the areas of health care, agriculture, animal sciences and environment. India has also been given the overall responsibility for coordinating various activities of the G-15 countries for the establishment of the gene banks for medicinal and aromatic plants.

AUTONOMOUS INSTITUTIONS

The Department of Biotechnology has established two autonomous institutions i.e. National Institute of Immunology (NII), New Delhi and National Facilities for Animal Tissue and Cell Culture (NFATCC), Pune.

NII, a premier institutions has been working on the mechanisms of the immune system in order to persue creative solutions to a broad range of health problems. So far, NII has focussed its attention on the control of fertility and the diagnosis and control of communicable diseases. The Institute has licensed six products to industry. The leprosy immunomodulator developed by the Institute is currently on large scale phase III field trials. Studies have also been extended on rabies virus and to the diagnosis of other infectious diseases using immunological and molecular genetic methods. The main areas of research to be continued are —birth control vaccines; vaccine for communicable diseases; immunodiagnostic kit development along with DNA probe for communicable diseases; drug delivery system to deliver all doses of vaccine at a single contract point; animal related biotechnology for reproduction of genetically superior animals of economic importance; predetermination of sex of embryos, preservation of genes of rare species of animals; aquaculture biotechnology - *viz.* induced breeding of major Indian carps, transgenic animals and recombinant products.

The NFTACC has been actively involved in cell repository and supply of cell lines since its inception in 1988. The objectives of this facility are to maintain, identify, store, propagate and supply of human and animal cell lines, establishment of technology for collection, maintenance and supply of various human organs like cornea, skin, bone marrow.

As on date the facility holds a stock of more than 1000 different cell lines. The technology for maintenance of human cornea for an extended period has been standardised. Procedures for preservation of heart valves are being worked out. The Facility has worked to successful development of cell culture from human foetal tissues. Studies on screening antimalarials against chloroquine resistant malarial parasite strains have been carried out.

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8 Environment

AT the time of India's Independence, our priority was the provision of the basic human needs of food, fuel, shelter, health, employment, etc., to our vast population. As such the focus of our Five Year Plans was on agriculture, health, family welfare etc. In the Fourth Five Year Plan, problems related to environment received direct attention and a Committee was set up in 1972 to look into these problems and suggest a solution in consultation with experts and concerned ministries/departments of the government. Another Committee was set up in January 1980, for reviewing the existing legislative measures and administrative machinery for ensuring environmental protection and for recommending ways to strengthen them. On the recommendation of this high-powered Committee, the Department of Environment was set up in 1980. Subsequently in 1985, it was upgraded to a full-fledged Ministry of Environment and Forests to serve as the focal point in the administrative structure for the planning, promotion and coordination of environmental and forestry programmes.

Environmental problems in India can be classified into two broad categories: (a) those arising as negative effects of the very process of development and (b) those arising from conditions of poverty and underdevelopment. The first category has to do with the impact of efforts to achieve rapid economic growth and development. Poorly planned developmental projects are usually environmentally destructive. The second category has to do with the impact on the health and integrity of our natural resources such as land, soil, water, forests, wildlife, space, etc., as a result of poverty.

PROTECTION OF ENVIRONMENT

There are about 30 major enactments related to protection of environment now being administered by the Central and state governments. Prominent among these are: The Wildlife (Protection) Act, 1972; The Forest (Conservation) Act, 1980; The Water(Prevention and Control of Pollution) Act, 1974; The Air (Prevention and Control of Pollution) Act,1981; The Water (Prevention and Control of Pollution) Cess Act, 1977; The Environment Protection Act, 1986; The Public Liability Insurance Act, 1991; The Motor Vehicle Act, 1938 as amended in 1988; The Factories Act and the Insecticides Act. These are implemented through several organisations like Central and state pollution control boards, chief inspectors of factories and insecticides inspectors of agriculture departments, etc.

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The Environment (Protection) Act, 1986, brought into force from 19 November 1986 is a landmark legislation as it provides for the protection of environment and aims at plugging the loopholes in the other related Acts. The salient features of this Act are as follows:- (a) conferring powers on the Central Government to: (i) take all necessary measures for protecting quality of environment; (ii) coordinate activities of states, officers and other authorities under this Act or under any other law related to the objects of this Act; (iii) plan and execute a nationwide programme for prevention, control and abatement of environmental pollution; (iv) lay down standards for discharge of environmental pollutants; (v) empower any person to enter, inspect, take samples and test; (vi) establish or recognise environmental laboratories; (vii) appoint or recognise analysts; (viii) lay down standards for quality of environment; (ix) restrict areas in which industries, operations or processes may not be carried out or shall be carried out subject to certain safeguards; (x) lay down safeguards for prevention of accidents and take remedial measures in case of such accidents; (xi) lay down procedures and safeguards for handling hazardous substances; (xii) constitute an authority or authorities for exercising powers;(xiii) issue directions to any person, officer or authority including the power to direct closure, prohibition or regulation of any industry, operation or process or stoppage or regulations of supply of electricity, water or any other services; (xiv) require any person, officer, state government or authority to furnish any prescribed information; and (xv) delegate powers to any of a state or authority; (b) it confers powers on persons to complain to courts regarding any violation of the provisions of the Act, after a notice of 60 days to prescribed authorities; (c) the Act makes it obligatory for the person in-charge of a place to inform the prescribed authorities regarding any accidental discharge or apprehended discharge of any pollutant in excess of prescribed standards. Authorities on receipt of such information or otherwise shall take remedial measures to prevent or mitigate pollution caused by such accidents and expenses incurred by the authorities in respect of remedial measures are recoverable with interest from the polluter; (d) it prescribes stringent penalties for violation of the provisions of the Act. No distinction is shown between government department and other companies and (e) jurisdiction of civil courts is barred under the Act.

Government has taken several steps to provide adequate legal and institutional basis for implementation of the Act. These include issue of rules, notification of standards, action regarding environmental laboratories, strengthening of state departments of environment and pollution control boards, delegation of powers, identification of agencies for carrying out various activities for hazardous chemical management and setting up of environment protection councils in the states. The Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, have been made more stringent. Steps have been taken to: (i) prevent pollution at source; (ii) encourage, develop and apply

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the best available practicable and technical solutions; (iii) ensure that the polluter pays for the pollution and control arrangements: (iv) focus protection on heavily polluted areas and river stretches; and (v) involve the public in decision-making.

PREVENTION AND CONTROL OF POLLUTION

The Ministry of Environment and Forests has announced a policy Statement for Abatement of Pollution in February 1992 according to which, the key elements for pollution prevention are adoption of best available clean and practicable technologies rather than end of the pipe treatment. The focus is on source reduction and substitution of chemicals with safe alternatives. The thrust has, therefore, been made for considering process changes which involve significant improvements in energy and water conservation. To follow up on the various issues covered in the policy Statement for Abatement of Pollution, the National Conservation Strategy and the Forest Policy Statement, several new programmes and studies have been initiated and commissioned. An Environment Action Programme has been formulated covering a wide ambit of subjects such as clean technologies, improvement of water quality, institutional and human resource development, forestry and natural resource accounting.

To integrate natural resource accounting into the national accounting process, collection and analysis of environmental data has been initiated. It is proposed to produce a computerised map of the critically polluted areas through digitisation, on a format based on Geographic Information System, which will provide thematic information on pollution status particularly for air, water and land.

A notification making environmental audit mandatory has been issued which requires all industries applying for environmental clearance to submit an annual environmental audit report to the concerned state pollution control board. Companies Act, 1956 is proposed to be amended to include an Environment Statement in the annual report of companies.

An "*Eco-Mark*" label has been introduced to label consumer products that are environment friendly. Sixteen products have been identified for labelling and standards for soaps and detergents, paper and paints have been notified for awarding this label. The procedure for granting consent to small scale industries has been simplified. A new format for the consent application and for authorisation required under the Environment (Protection) Act, 1986 has been developed and notified.

The Central Pollution Control Board (CPCB) is the national apex body for assessment, monitoring and control of water and air pollution. The executive responsibilities for enforcement of the Acts for Prevention and Control of Pollution of Water (1974) and Air (1981) and also of the Water (Cess) Act, 1977 are carried out through the Board. Twentythree states and union territories have already adopted the Act and respective state pollution control boards have been constituted. These states are Andhra

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Pradesh, Assam, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal, Delhi and Pondicherry. Arunachal Pradesh has adopted the Act but is yet to constitute the board. Enactment of the Environment (Protection) Act, 1986 has further extended the scope of the activities of the Board. Under the E (P) Act, 1986, effluent and emission standards in respect of 555 specific industries have been notified. So far, 84 laboratories have been recognised as environmental laboratories. Minimum National Standards (MINAS) for effluents and emissions from specific industries have been formulated and control measures are being implemented in a phased manner.

Seventeen categories of heavily polluting industries have been identified namely, cement, thermal power plants, distilleries, sugar, fertilizer, integrated iron and steel, oil refineries, pulp and paper, petro chemicals, pesticides, tanneries, basic drugs and pharmaceuticals, dye and dye intermediates, caustic soda, zinc smelter, copper smelter and aluminium smelter. Action is taken against the defaulting units in these categories on priority. On the basis of the designated best use of criteria CPCB has identified 13 grossly polluted stretches of Sabarmati, Subernarekha, Godavari, Krishna, Indus (tributaries), Sutlej, Ganga (tributaries), Yamuna, Hindon, Chambal Damodar, Gomati and Kali rivers to formulate short-term result oriented programmes. The Ministry, in consultation with state governments, has identified 19 critically polluted areas in the country which need special attention for control of pollution. These are Vapi (Gujarat), Singrauli (UP), Korba (Madhya Pradesh), Digboi (Assam), Talcher (Orissa), Bhadravati (Karnataka), Howrah (West Bengal), Dhanbad (Bihar), Pali (Rajasthan); Manali (Tamil Nadu); Visakhapatnam (Andhra Pradesh), Chembur (Maharashtra), Najafgarh (Delhi), Govindhgarh (Punjab) and Udyog Mandal (Kerala). The progress in abatement of pollution in these areas is being reviewed.

CENTRAL GANGA AUTHORITY

The Central Ganga Authority (CGA) was set up in 1985 to oversee the implementation of the Action Plan drawn up for cleaning polluted stretches of the Ganga. A Steering Committee has identified different schemes to be taken up in Uttar Pradesh, Bihar and West Bengal through which the river runs. A Committee has been set up to monitor the progress of the schemes and their impact on the river quality.

The Action Plan proposes to divert the sewage flowing into the river to other locations for treatment and conversion into a valuable energy source. Schemes identified for this purpose include: renovation of existing trunk rivers and outfalls to prevent overflow of sewage into the Ganga, construction of interceptions to divert the flow of sewage and other liquid wastes into the river and renovation and construction of pumping stations and

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sewage treatment plants to recover maximum possible resources. Smaller schemes such as construction of community toilets, conversion of dry toilets to flush toilets, construction of electric crematoria, development of river *Ghats* and modernisation of solid waste management system, have also been taken up to reduce domestic waste load on the Ganga. As against a target of 873 million litres per day (mld) of domestic sewage be intercepted, diverted and treated intercepting and diverting 485 mld and treating 223 mld of domestic and municipal sewage has been created till May 1993.

To reduce industrial pollution load on the river, of the 68 gross industrial polluters identified, 43 units have installed effluent treatment plants (ETPs) and in seven units these are under installation. Ten units have been closed down, and action has been initiated against the remaining eight. Existing systems of water abstraction and utilisation are under review and measures to augment flow at critical points are being identified. Of the 261 schemes sanctioned for execution, 195 have been completed and the remaining are at various stages of implementation.

Quality of the river water is being monitored in collaboration with the Central Water Commission and the Central and state pollution control boards. Leading national laboratories, institutes and universities have been associated with different aspects of water quality, monitoring and study of physio-chemical characteristics of the river. A macro-level model for river quality has been developed and verified for the stretch of the river between Rishikesh and Patna. It will be used for simultating water quality data. At micro-level, sampling and analysis of water quality is being carried out at 27 identified locations. Public participation is sought to be achieved by involving non-governmental organisations. Under the National River Action Plan some of the major rivers of the country are proposed to be taken up to make them pollution free. Under the second phase of the Ganga Action Plan, a scheme of pollution abatement of Yamuna and Gomati rivers has been formulated at an estimated cost of Rs 421 crore.

ENVIRONMENTAL IMPACT ASSESSMENT

The objective of all development is to add to the economic well-being of the people so that their standard of living can be improved. Development projects are, therefore, taken up to convert the natural resources into goods and services. It is imperative to incorporate environmental aspects into the development projects right at the inception stage to prevent the erosion of the resources base itself. Impact assessment is a handy tool to assess the environmental compatibility of the projects in terms of their location, suitability of technology, efficiency in resource utilisation and recycling etc. Impact assessment was introduced in 1978 and now covers almost all major projects.

IMPACT ASSESSMENT PROCEDURE

At present environmental impact assessment is being done for the following

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types of projects:- (a) (i) river valley (ii) thermal power; (iii) mining; (iv) industries; (v) atomic power; (vi) rail, road, highways, bridges; (vii) ports and harbours; (viii) airport; (ix) new towns and (x) communication projects, (b) projects, which require approval of the Public Investment Board/Planning Commission/Central Electricity Authority; (c) projects referred to the Ministry of Environment and Forests by other ministries; (d) projects which are sensitive and located in environmentally degraded areas; (c) public sector undertakings of the Centre where the project cost is more than Rs 20 crore.

In accordance with the recently promulgated coastal zone regulations, all the seven coastal states are required to prepare coastal management plans which *inter alia* would provide protection to ecologically fragile coastal belts, estuarine, coastal areas rich in biological diversity and provide for land use zoning.

The preliminary scrutiny of the project is done by the respective technical divisions and the overall appraisal of the project is undertaken by a specially constituted environmental appraisal committee of experts. In addition, special groups/committees and task forces are constituted as and when needed for expert inputs on major projects. After a detailed scrutiny and assessment, the appraisal committee makes its recommendations for approval of rejection of the projects. Depending on the nature of the project, certain safeguards are recommended. For monitoring and timely implementation of safeguards suggested, six regional centres have been set up by the Ministry at Shillong, Bhubaneswar, Chandigarh, Bangalore, Lucknow and Bhopal.

Under the Forests (Conservation) Act, 1980 diversion of forest land for non-forest purpose requires prior approval from the Central Government. While proposals involving forest land less than 20 hectares can be decided by the state forest departments, proposals involving more than that are appraised by the Advisory Committee of the Ministry, constituted under the Forests (Conservation) Act, 1980 as amended in 1988.

When a project requires both environmental and forest clearance, the proposals are simultaneously processed under the Single Window Clearance scheme. All cases with complete environmental data and action plans are decided within three months. In the case of diversion of forest land, the decision is taken within six months.

RIVER VALLEY PROJECTS

Major environmental impacts of river valley projects which need consideration are: (i) degradation of catchment areas; (ii) command area development; (iii) rehabilitation of those affected; (iv) increased incidence of water-borne diseases; (v) reservoir induced seismicity; and (vi) deforestation and loss of flora and fauna including gene-pool reserves.

MINING PROJECTS

Major environmental impacts of mining operations are; (i) degradation of

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land; (ii) pollution of surface and ground water resources; (iii) pollution of air; (iv) deforestation including loss of flora and fauna; (v) rehabilitation of affected population including tribals; (vi) impact on historical monuments and religious places. A major component of the mining operations in India is the opencast mining which severely affects land use pattern. Mining operations have serious adverse impact on the growth of vegetation and general landscape. Minerals extracted interact with surface and ground water thus polluting the water resources. Loss of top-soil due to deforestation also depletes ground water resources and results in drying up of perennial sources like springs and streams especially in hill areas.

THERMAL POWER PROJECTS

Major environmental impacts of thermal power projects include: (a) air pollution; (b) water pollution; (c) deforestation; (d) rehabilitation and (e) land degradation. Fuel gases emerging from stacks containing sulphur dioxide, oxides of nitrogen, carbon monoxide, etc., are detrimental to human beings and vegetation. Water pollution from thermal stations can be due to release of slurry which is a mixture of fly ash and water. Thermal pollution is due to release of cooling water which can affect aquatic life. Solution to disposal of ash problem is in its recycling by converting it into building blocks and its use in other construction works. Another step which helps in abating pollution caused by ash is stabilisation of ash dumps through suitable vegetation.

INDUSTRIAL PROJECTS

Major environmental impacts of industrial projects include (i) air pollution; (ii) water pollution and (iii) disposal and utilisation of solid waste. Impacts of projects in specific areas are examined in great detail and suitable control measures suggested. Linkages of project requirements to utilisation of resources in an optimal way is an essential prerequisite. Concept of recycling reuse and adoption of clean technologies is increasingly becoming predominant.

TRANSPORTATION SECTOR

Projects considered under the transport sector include laying of railway lines, roads and bridge construction, airport construction and establishing of ports and harbours. The environmental parameters affected by the transport projects have been classified into (i) natural physical resources; (ii) natural ecological resources; (iii) human/economic development resources and (iv) quality of life values including aesthetic and cultural values. Adverse impacts on above environmental parameters are to be identified and mitigation measures provided for to offset such impacts.

COASTAL AREA MANAGEMENT

To protect cultural, aesthetic and ecological values of the coastal areas, a

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directive has been issued to coastal states by the Government banning construction activities within 500 meters of high-tide lines. A notification under the Environment (Protection) Act, 1986, declaring the coastal stretches as coastal regulation zone (CRZ) and imposing graded restrictions on industrial operations and processes in these zones has also been issued. State governments and union territories surrounded by coastal belts have been directed to prepare coastal zone management plans. On the basis of a representation from hotel industries and the Department of Tourism, an expert committee has been constituted to examine the issues relating to tourism and hotel facilities in the coastal areas.

NUCLEAR POWER PROJECTS

In nuclear power plants, safety from radiation during the operation of the plants and after, and disposal of nuclear wastes, are of prime concern. Major environmental impacts of nuclear power projects which need consideration are; (i) radio-active contamination of air, water and soil; (ii) thermal pollution due to discharge of cooling water; (iii) deforestation and loss of flora and fauna; (iv) rehabilitation and (v) radio-active waste disposal. Exposure to radio-active radiations in excess of the prescribed limits are detrimental to human beings, aquatic life, flora and fauna. The long half life periods for radioactive decay necessitate sealing of the reactor vessel and components for a dormant period of about 30 years after decommissioning of the plant.

ECO-REGENERATION AND DEVELOPMENT

Eco-task forces of ex-servicemen have been deployed for undertaking eco-restoration work through afforestation and soil conservation measures in selected highly degraded and inhospitable areas of the country. Major field demonstration projects for integrated eco-development have been undertaken in Pushkar Valley; Ajmer; Binasar, Ranikhet, Marathwada, Coimbatore and in Purulia, West Bengal.

Govind Ballabh Pant Institute for Himalayan Environment and Development has been set up at Almora (UP) with its units at Srinagar (Garhwal), Gangtok (Sikkim) and Nagaland. Another unit has been set up at Kullu. The main task of the institute is to undertake indepth research and development studies on environment problems of Himalayan region and Shivalik ranges and to demonstrate suitable technology packages for restoration of degraded eco-system.

NATIONAL CONSERVATION STRATEGY

A National Conservation Strategy and policy statement on environment and development covering various aspects of environmental concern and action plans has been adopted by the Government of India in June 1992.

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BIOSPHERE RESERVES

Biosphere reserves are multi-purpose protected areas to preserve the genetic diversity in representative eco-systems. The major objectives of biosphere reserves are: (i) to conserve diversity and integrity of plants, animals and micro-organisms; (ii) to promote research on ecological conservation and other environmental aspects and (iii) to provide facilities for education, awareness and training.

As per recommendations of a Core Advisory Group set up by the Government of India in 1979, 14 potential sites were identified for setting up biosphere reserves in the country. Biosphere reserves set up so far are: (i) Nilgiri; (ii) Nanda Devi; (iii) Nokrek; (iv) Great Nicobar; (v) Gulf of Manar; (vi) Manas and (vii) Sunderbans. Comprehensive guidelines have been prepared which emphasize on formulation of eco-development and demonstration projects, development of data base, conservation plans of key species, establishment of research stations and implementation of social welfare activities. Non-government organisations will be involved in the biosphere reserve programme for creation of public awareness.

WETLANDS

India has a wealth of wetland eco-systems distributed in different geographical regions ranging from cold arid zone of Ladakh to wet humid climate of Imphal; warm arid zone of Rajasthan to tropical monsoonic Central India; and wet and humid zone of southern peninsula. Most of the wetlands in India are directly or indirectly linked with major river systems such as Ganga, Brahmaputra, Narmada, Tapti, Godavari, Krishna, Cauveri etc.

A National Wetland Management Committee has been constituted for advising the government on appropriate policies and measures to be taken for conservation and management of the wetlands and the Committee has identified 16 wetlands on priority basis for conservation and management. Steering committees have been set up by the concerned state government in which representatives of state government departments, universities and research institutions are included. Nodal research/academic institutions have been identified for each of the selected wetlands. A directory on wetlands of India has been published which gives information on location, area and ecological categorisation of wetlands in different parts of the country.

MANGROVES

Mangroves are very specialised forest eco-systems of tropical and sub-tropical regions of the world bordering the sheltered sea coasts and estuaries. They stabilise the shoreline and act as bulwark against encroachments by the sea. Mangrove forests are dominated by salt tolerant inter-tidal halophytic sea plants of diverse structures. Mangroves occur all along the Indian coastline in sheltered estuary, tidal creeks, backwaters, salt marshes and mudflats covering a total area of 6,740 sq km which is about seven per

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cent of the world's total mangrove area. Realising the importance of mangroves, a scheme for conservation and management of mangroves has been initiated by the Ministry. A National Mangrove Committee was constituted to advise the government on appropriate policies and implementation of the programme for conservation of mangroves. Based on the recommendations of the committee, these 15 mangrove areas have been identified: Northern Andaman and Nicobar (Andaman and Nicobar Islands), Sunderbans (West Bengal), Bhitarkanika (Orissa), Coringa, Godavari Delta and Krishna Estuary (Andhra Pradesh), Mahanadi Delta (Orissa), Pichavaram and Point Calimer (Tamil Nadu), Goa (Goa), Gulf of Kutch (Gujarat), Coondapur (Karnataka), Achra/Ratnagiri (Maharashtra) and Vembanad (Kerala).

CORALS AND CORAL REEFS

Four coral areas have been identified *viz.* Gulf of Mannar, Andaman and Nicobar Islands, Lakshadweep Islands and Gulf of Kutch. Concerned state governments have been asked to prepare management action plans and also set up steering committees for undertaking the management of corals in the respective areas. The mangrove committee, existing at the state level, will also help in conservation programme of coral reefs. Information on all aspects of Wetlands, mangroves and coral reefs is given in a publication "*India's Wetlands, Mangroves and Coral Reefs*" brought out by the Ministry, recently

NATIONAL NATURAL RESOURCE MANAGEMENT SYSTEM

The basic aim of the National Natural Resource Management System is to utilise remote-sensing techniques for scientific management of natural resources. In pursuance of this, several projects have been funded to monitor the environmental changes associated with mining, industrialisation, urbanisation and other developmental activities. The overall approach is to identify critical areas and to help in developing strategies for developmental planning of these areas.

NATIONAL AFFORESTATION AND ECO-DEVELOPMENT BOARD

National Wastelands Development Board (NWDB) established in May 1985 has been bifurcated into a new Department of Wastelands Development and a National Afforestation and Eco-Development Board (NAEB). While the NAEB is part of the Ministry of Environment and Forests, the Department of Wastelands Development has been transferred to the Ministry of Rural Development. The responsibilities of the NAEB include promotion of afforestation, tree plantation, ecological restoration and eco-development activities in the country with special attention to the degraded forest areas and lands adjoining the forest areas, national parks, sanctuaries and other protected areas as well as the ecologically fragile areas like the western Himalayas, Arvallis, Western Ghats etc. The NAEB seeks to carry out its

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responsibilities through several schemes such as the integrated waste lands development projects, fuelwood and fodder projects, minor forest produce including medicinal plants scheme, aerial seeding, seed development, people's nursery, technology extension, grants-in-aid to voluntary agencies etc. Several policy advisory groups have been set up to address crucial policy issues relating to fuelwood conservation, wood substitution, grazing and livestock management etc.

A National Fund for Afforestation and Wastelands Development has been set up. Donations from individuals as well as corporate/non-corporate bodies are eligible for cent per cent tax deduction under the relevant provisions of the Income Tax Act. The NAEB also functions as a nodal agency for bilateral and multilateral cooperation in the field of forestry development programmes. As such financial assistance is being received from the World Bank, European Economic Community, Swedish International Development Agency, Overseas Development Agency, Overseas Economic Cooperation Fund, etc., for implementing forestry projects in various states.

MANAGEMENT OF HAZARDOUS SUBSTANCES

The Ministry is the nodal agency for the management and control of hazardous substances which include hazardous chemicals, wastes and micro-organisms. In pursuance of these activities, rules for (i) The Manufacture, Storage and Import of Hazardous Chemicals, 1989; (ii) Hazardous Wastes (Management and Handling) Rules, 1989; and (iii) Manufacture, use, Import, Export and Storage of Hazardous Micro-organisms/Genetically Engineered Organisms or Cell, 1989, have been notified under the Environment (Protection) Act, 1986. The rules for the manufacture, storage and import of hazardous chemicals provide for notification and listing of hazardous chemicals siting of hazardous installations, taking preventive and control measures for major accidents and stipulations for import of hazardous chemicals. On suggestions of the Ministry, a set of rules for transportation of hazardous chemicals by road have been incorporated in the Motor Vehicle Rules, 1989. The Hazardous Wastes (Management and Handling) Rules deal with generation, collection, separation, storage, transportation, treatment, recovery and disposal of hazardous wastes. Rules for the manufacture, use, import, export and storage of hazardous micro-organisms/genetically engineered organisms or cells deal with safe handling of hazardous micro-organisms/genetically engineered organisms and have been prepared in consultation with the Department of Bio-technology (DBT). DBT has drafted safety guidelines including procedures for safe handling of hazardous substances.

A crisis management plan has been worked out to meet chemical emergencies in units handling hazardous chemicals. The plan provides for a three-tier system *i.e* establishment of crisis group at the Central, state and district or local levels. A control room has been set up in the Ministry to

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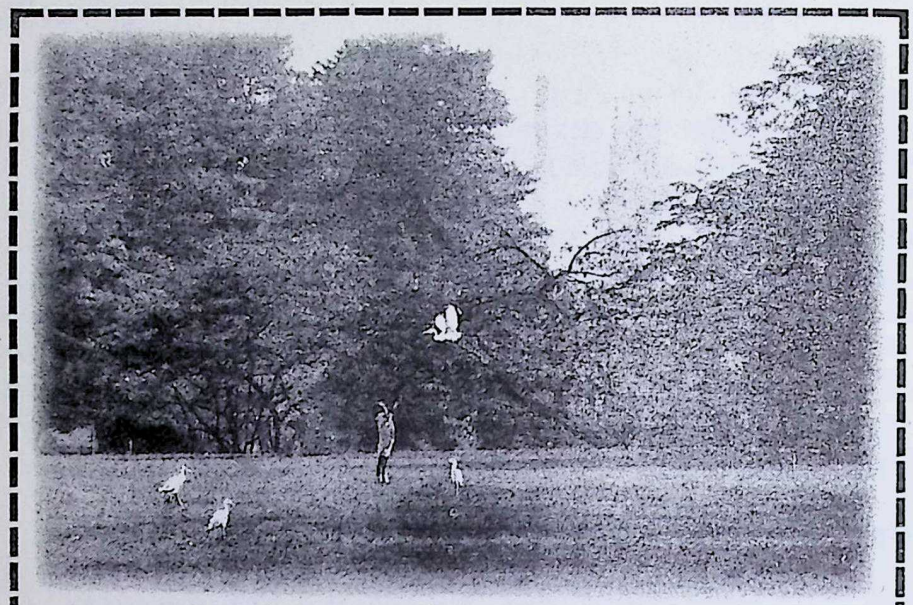

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deal with an emergency caused due to hazardous chemicals. Guidelines for preparation of crisis management plans have been issued to the state governments and financial support is being provided to them to strengthen infrastructure for the purpose. A model off-site plan for Baroda district has been prepared; off-site plans are being prepared for nine more districts *viz.* Mangalore, Durgapur, Kota, Raigarh, Thane, Midnapur, Moradabad, Vishakapatnam, Cuddalore and Tuticorin. A manual on Emergency Preparedness Plan for Chemical Hazardous has been published by the Ministry.

Rules for prohibition on handling of hazardous chemicals have been notified under Section 6 (ii) (d) of Environment (Protection) Act, 1986. A notification for prohibition on use of benzidine and benezidine based dyes and its salts has been issued. On the recommendations of the Ministry, environmentally harmful pesticides like penta chlorophenols (PCB) used in leather industry have been banned by the Ministry of Agriculture. Documented safety information on hazardous chemicals is being compiled. A Public Liability Insurance Act has been enacted to provide immediate relief to the victims of accidents by hazardous chemical industries. India is a signatory to the UNEP sponsored Convention on Control of Trans-boundary Movement of Hazardous Wastes which has been adopted at Basel, Switzerland by 126 governments of the world in 1989. The convention aims at checking the reported illegal traffic in hazardous wastes from one country to another. An approach paper on National Register of Potentially Toxic Chemicals (NRPTC) has been prepared with a view to set up the basic infrastructure for implementing the London guidelines for the exchange of information on chemicals in international trade including the procedure for prior informed consent. The Ministry has constituted a National Waste Management Council to suggest ways and means for effective utilisation of wastes generated in the country. Three sub-groups have been set up by the council to deal with the major categories of wastes *viz.* industrial; urban; rural. The sub-groups have been entrusted with the task of indentifying wastes, suggesting technological action points including legislation, taxes and incentives. For the disposal of hazardous wastes, ten sites have been identified in the country for preparation of secured land fills.

FORESTS

Forests are renewable source and contribute substantially to economic development. They play a major role in enhancing the quality of environment. The country has an area of 752.3 lakh hectare notified as forests, of which 406.1 lakh hectare is classified as reserved and 215.1 lakh hectare as protected. Unclassified forest area is spread over 131.1 lakh hectare. About 19.47 per cent of the total geographical area of the country is under actual forest cover.

FOREST POLICY AND LAW

India is one of the few countries which has a forest policy since 1894. It was revised in 1952 and again in 1988. The main plank of the revised forest

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policy of 1988 is protection, conservation and development of forests. Its aims are: (i) maintenance of environmental stability through preservation and restoration of ecological balance; (ii) conservation of natural heritage: (iii) check on soil erosion and denudation in catchment areas of rivers, lakes and reservoirs; (iv) check on extension of sand dunes in desert areas of Rajasthan and along coastal tracts; (v) substantial increase in forest/tree cover through massive afforestation and social forestry programmes; (vi) steps to meet requirements of fuel wood, fodder, minor forest produce and soil timber of rural and tribal populations; (vii) increase in productivity of forest to meet the national needs;(viii) encouragement of efficient utilisation of forest produce and optimum substitution of wood, and (ix) steps to create massive people's movement with involvement of women to achieve objectives and minimise pressure on existing forests.

The entire gamut of forest-related activities are being given a new orientation in the light of the National Forest Policy of 1988. Some of the important areas for immediate and effective protection of forests include afforestation and development of wastelands, reforestation and replantation in existing forests, forest settlement, restriction on grazing, encouragement for wood substitutes and supply of other kinds of fuel, elimination of forest contractors, discouragement of monoculture practice etc.

FOREST CONSERVATION

The increasing destruction and degradation of forests and treelands especially in the Himalayas and other hilly areas, is contributing to heavy erosion of top soil, erratic rainfall and recurring floods. It is also causing acute shortage of firewood and loss of productivity due to eroded and degraded lands. The Forests (Conservation) Act 1980, enacted to check indiscriminate deforestation/diversion of forest lands for non-forestry purpose was amended in 1988 to make it more stringent by prescribing punishment for violations.

Another area of concern has been degradation of forests due to biotic pressure. Guidelines have been framed for preparation of working plans and felling in forests. Some of the salient features are: (i) working plans should be up-to-date and stress conservation; (ii) preliminary working plan should have multi-disciplinary approach; (iii) tribal rights and concessions should be highlighted along with control mechanisms; (iv) grazing should be studied in detail and specific prescriptions should cover fodder propagation; (v) shifting cultivation and encroachments need to be controlled; (vi) clear-felling with artificial regeneration should be avoided as far as possible and clear felling blocks should not exceed ten hectare in hills and 25 hectare area in plains, and (vii) banning all felling above 1000 metre altitude for a few years should be considered to allow these areas to recover. Critical areas in hills and catchment areas prone to landslips,erosion etc., should be totally protected and quickly afforested.

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The Government has recently set up National Forest Fund. Guidelines have been issued in June 1990 to state governments for involving village communities and voluntary agencies for regeneration or degraded forest lands on usufruct sharing basis. So far eleven states have issued such orders.

FIREWOOD

Firewood occupies a predominant place as an energy source in rural areas. As against the estimated requirement of about 15.7 crore tonnes of fuelwood per annum, recorded production is only 5.8 crore tonnes. Due to scarcity of firewood, considerable quantities of cowdung and agricultural residues are burnt as fuel leading to air pollution. It is expected that programmes of renewable energy sources and augmenting fuel growth in wastelands will help in closing the gap.

FOREST FIRE CONTROL

Fire is one of the major factors responsible for destruction of forests in the country. Scrupulous fire protection efforts would benefit forests substantially than a whole generation of improved felling. In India, most of the fires are man-made and are generally deliberate and on rare occassions accidental. The causes of deliberate fire incidences are grazing, *mahua* seed and flower collections,*tendu* leaf collection, poaching and shifting cultivation etc. In order to reduce the incidents of fire in India, the following steps have been undertaken by the forest department; (i) development of firelines and (ii) establishment of watch towers besides employing fire watchers during fire seasons. In order to develop the techniques for detection, prevention and suppression of fire in the country, a UNDP assisted Modern Forests Fire Control Projects was initiated in 1984 in Chandrapur, Maharashtra and Haldwani/Nainital, UP. Techniques like development of better communication network and effective use of hand tools and other equipments developed under the projects have proved successful in reducing the fire damage. In addition, fire danger rating system, wireless network, fire reporting system and hand tools etc. were designed. It has been decided to extend this scheme to other states prone to forest fires and so far eleven states have been provided with assistance under this scheme.

WILDLIFE

The National Wildlife Action Plan adopted in 1983 provides the framework of strategy as well as programme for conservation of wildlife. At present the protected area network comprises 75 national parks and 421 sanctuaries covering 4.5 per cent of the total geographical area of the country, which is proposed to be increased to 5.1 per cent. The Wildlife (Protection) Act, 1972, adopted by all states except Jammu and Kashmir (which has its own Act), governs wildlife conservation and protection of endangered species. The Act prohibits trade in rare and endangered

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species. India is also a signatory to the Convention on International Trade in Endangered Species of Wild Flora and Fauna. Under this, export or import of endangered species and their products is subject to strict control. Commercial exploitation of such species is prohibited. The Centre provides financial and technical assistance to states for: (i) development and improved management of national parks; (ii) protection of wildlife and control of poaching and illegal trade in wildlife products; (iii) eco-development in areas around national parks and sanctuaries; (iv) conservation of elephant and its habitat; and (v) conservation of rhinos in Assam. The Wildlife (Protection) Act, 1972 has been amended to make the provisions more effective. Endangered species of plants and animals have been brought under the purview of the Act. A Central Zoo Authority has been set up to look after the management of zoological parks in the country. The Authority has since notified rules for recognition of zoos which stipulates the standards for upkeep, maintenance and veterinary care of animals. Project Tiger, one of the premier conservation efforts of the country has completed 20 years in April 1993. To commemorate this occasion several activities such as seminars, exhibitions, visits to national parks etc., were organised all over the country, including an international symposium on tiger at New Delhi.

RESEARCH PROMOTION

ENVIRONMENTAL RESEARCH PROGRAMME

The programme aims to develop strategies for sustainable resource management and create facilities and trained manpower to conduct research in priority areas. Major schemes include: (a) man and biosphere research scheme; (b) environment research scheme; (c) integrated action-oriented eco-development, research and extension programmes in the Western Ghat, Eastern Ghat and Kaveri Basin; and (d) coordinated research projects on ethnobiology and impact of global warming on sea level rise. A number of small, specific research projects are also being supported. Expert committees and expert working groups make recommendations for undertaking research in priority areas, scrutinise proposals, evaluate progress and recommend suitable mechanisms for implementation of the research projects. Priority areas of research are identified in five fundamental elements *viz.*, land, water, air, space and energy. To strengthen the environmental research and training base,'Centres of Excellence' namely, Ecological Research and Training Centre, Bangalore; Centre for Mining Environment, Dhanbad, Centre for Environmental Education, Ahmedabad. CPR Environment Education Centre, Madras and the Salim Ali Centre for Orinthology and Natural History, Coimbatore have been set up.

FORESTRY RESEARCH

Forestry research is the primary responsibility of the Indian Council of Forestry Research and Education. It has the following forestry research

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institutes and centres under it: (i) Forest Research Institute, Dehra Dun; (ii) Institute of Arid Zone Forestry Research, Jodhpur; (iii) Institute of Rain and Moist Deciduous Forests, Jorhat; (iv) Institute of Wood Science and Technology, Bangalore; (v) Tropical Forestry Research Institute, Jabalpur; (vi) Institute of Forest Genetics and Tree Breeding, Coimbatore; (vii) Conifers Research Centre, Shimla and Advanced Centre for Forests and Environment has been set up recently at Allahabad. In addition, the Indian Plywood Industries Research Institute, Bangalore, has been transferred to the Ministry of Environment and Forests from the Ministry of Industry. Besides forestry research in wood panel products, this Institute imparts training to workers in optimum utilisation of timber.

WILDLIFE RESEARCH

Research programme in wildlife are carried out by the Wildlife Institute of India, Dehra Dun. Several projects on habitat evolution, elephant movement, ecology of gharials and turtles, status of endangered species behavioural ecology, bio-diversity, resource study, conservation, ecology and management of specific animals etc., are being carried out.

EDUCATION, AWARENESS AND INFORMATION

Priority is accorded by the Ministry to promote environmental education, create environmental awareness, among various age groups and to disseminate information through Environmental Information System (ENVIS) network to all concerned. Special emphasis has also been given to non-formal environmental education through seminars/symposia/workshops, training, programmes, eco-camps, audio-visual shows etc. The Ministry has been organising a National Environment Awareness Campaign (NEAC) since July 1986. As a part of this Campaign, 19 November to 18 December every year is observed as the National Environment Month. Students/youth, teachers, women, tribals, administrators, professionals, legislators, industrial workers, Armed Forces and the general public are covered under this Campaign. This year, about 1,200 organisations have been granted financial assistance by the Ministry to organise various activities for creating environmental awareness. The Ministry also provides financial support for production of films on environment.

A new scheme, "*Paryavaran Vahini*" has been launched during 1992-93 to create environmental awareness and to ensure active public participation by involving the local people in activities relating to environmental protection. "*Paryavaran Vahinis*" are proposed to be constituted in 100 selected districts all over the country which has high incidence of pollution and density of tribal and forest population. The *Vahini* also plays a watch dog role by reporting instances of environmental pollution, deforestation, poaching etc. It functions under the charge of District Collectors with active cooperation of the state/UT governments and is entirely financed by the Ministry of Environment and Forests.

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The National Musuem of Natural History (NMNH) which was set up in New Delhi in 1978, is concerned with the promotion of non-formal education in the area of environment and conservation. The museum conducts permanent exhibit galleries, temporary exhibitions and a large number of educational programmes and activities for school children, college youth and the general public.

The Indian Council for Forestry Research and Education is the focal point for forestry education and extension development in the country. Indira Gandhi National Forestry Academy, Dehra Dun continues its primary task of training Indian Forest Service (IFS) professionals. State forest service colleges also provide training to the officers of the State Forest Service (SFS). The Indian Plywood Research Institute, Bangalore organises short-term courses in the area of wood science. The Indian Institute of Forest Management, Bhopal, also provides training in forest management and allied subjects to persons from the Indian Forest Service, State Forest Service, forest development corporations and forest related industries to develop forestry management skills. The Wildlife Institute of India, Dehra Dun conducts various programmes to provide in-service training in wildlife management for forest officers, wildlife ecologists and other professionals.

ENVIRONMENTAL INFORMATION SYSTEM (ENVIS)

ENVIS has been set up by the Ministry in 1982 as a decentralised information system network for collection, storage, retrieval and dissemination of environmental information to decision makers, policy planners, scientists, engineers, environmentalists, research workers and the general public all over the country. Besides the focal point in the Ministry, the ENVIS network presently consists of 18 subject oriented centres known as ENVIS Centres, set up in various institutions/organisations of the country on priority areas of environment, environmentally sound and appropriate technology, bio-degradation of wastes, desertification, estuary, mangroves, corals and lagoons, media and environment, environmental education, solid wastes disposal, animal ecology, Himalayan ecology etc.

ENVIS has been designated as National Focal Point (NFP) and Regional Service Centre (RSC) for South Asia sub-regional countries by INFOTERRA (an international referral system for sources of information on environment) of United Nations Environment Programme (UNEP). As NFP, ENVIS updated more than 250 Indian Potential Sources in the International Directory of UNEP for providing information in the field of environment and its related areas. ENVIS also provides information feedback to Regional Environmental and Natural Resources Information Centre (RENRIC) programme of SACEP with the objective of updating and augmenting its resource base.

INTERNATIONAL COOPERATION

The Ministry functions as a nodal agency for UNEP, South Asia Cooperation Environment Programme (SACEP) and International Centre for In-

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tegrated Mountain and Development (ICIMOD) and various international agencies, regional bodies and multilateral institutions. It coordinates all bilateral cooperation in the field of environment. India has such cooperation programmes with the Netherlands, Norway, Sweden, Denmark, Great Britain, USA, the Russian Federation, Canada, Japan and FRG in addition to the social forestry programmes with external assistance.

India is signatory to the following important international treaties/agreements in the field of environment: (i) International Convention for the regulation of whaling; (ii) International Plant Protection Convention; (iii) The Antarctic Treaty; (iv) Convention on Wetlands of international importance especially as waterfowl habitat; (v) International Convention for the Prevention of Pollution of the Sea by Oil; (vi) Convention on international trade in endangered species of wild flora and fauna; (vii) Protocol of 1978 relating to the international convention for the prevention of pollution from ships, 1973; (viii) Vienna Convention for the protection of the ozone layer; (ix) Convention on Migratory species; (x) Basel convention on transboundary movement of hazardous substances; (xi) Framework convention on climate change; (xii) Convention on conservation of Bio-diversity and (xiii) Montreal Protocol on the substances that deplete the ozone layer.

India participated actively in the United Nation's Conference on Environment and Development (UNCED) held at Rio-de-Janeiro, Brazil, during 3-14 June 1992. The Ministry played an important role in coordinating various activities, both at international and national level related to the UNCED by organising a number of wide-ranging consultations with NGOs, experts and other ministries at the national level and by organising a Conference of SAARC Environment Ministers in April 1992 to arrive at a common approach to the UNCED and other related issues. During the Rio Conference, India has signed two conventions—one on climate change and the other on conservation of Bio-diversity.

The Rio Conference has served to—generate awareness about the interrelated concerns of environment and development and the need to integrate them in development policies. The linkages among poverty, consumption patterns, environment and development were better appreciated at this Conference which has widened the area of common understanding among various countries thus paving the way for a truly global partnership in protecting the planet earth. The Minister for Environment and Forests has been elected as the Chairman of the Conference of the parties to the Montreal Protocol. India now has access to the multilateral fund set up under the Protocol and two projects relating to protection of Ozone Layer have been approved by the Fund secretariat. The Ministry has set up an Ozone Cell and constituted a Task Force to determine a national strategy for phasing out Ozone depleting substances.

FELLOWSHIPS AND AWARDS

INDIRA GANDHI PARYAVARAN PURASKAR (IGPP)

Instituted in 1987, the Indira Gandhi Paryavaran Puraskar, consisting of a

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cash component of Rupees one lakh, a silver trophy and a citation, is awarded every year to an organisation or to an individual for significant contributions in the field of environment.

INDIRA PRIYADARSHINI VRIKSHAMITRA AWARD (IPVM)

The Indira Priydarshini Awards have been instituted by the Ministry in 1986 to recognise outstanding contributions of individuals and organisations in the field of afforestation and wastelands development. Ten awards are given every year to individuals, educational institutes, *Panchayats*, voluntary agencies and government agencies. Each award carries a medallion, a citation and a cash component of Rs 50,000

Since 1991, national awards are being presented every year to eligible industries in recognition of their contributions to the prevention and control of environmental pollution. Four awards were given during 1992.

DESERT ECOLOGY FELLOWSHIP

In recognition of the *Bishnoi* community's contribution to nature conservation and to encourage studies on desert ecology, the Ministry has instituted a Desert Ecology Fellowship at the University of Jodhpur .

This annual fellowship, instituted in 1978, is awarded to recognise, encourage and support excellence in any branch of research related to environmental sciences.

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9 Health

HEALTH and human development form integral components of overall socio-economic development of any nation. Under the Constitution, public health and sanitation and hospitals and dispensaries fall in the State List. Population control and family planning, medical education, adulteration of food stuffs and other goods, drugs and poisons, medical profession, vital statistics including registration of births and deaths, lunacy and mental deficiency are in the Concurrent List.

Union Ministry of Health and Family Welfare plays a vital role in the national efforts to help citizens lead a healthy and happy life. The Ministry is responsible for implementing programmes of national importance like family welfare, primary health care services, prevention and control of diseases, etc., which form the main plank of our development efforts. Also, our national commitment is to attain the goal of 'health for all by the year 2000 AD' in accordance with the Alma-Ata declaration of September 1978.

HEALTH PLANS

In the national scenario, from the Fifth Five Year Plan onwards emphasis was provided to remove disparities between the urban and the rural health facilities and between various regions in the country. By the end of the Seventh Five Year Plan and Annual Plan 1991-92, a huge rural health infrastructure has been established in the form of sub-centres, primary health centres and community health centres throughout the country. During the Eighth Plan period consolidation of infrastructure is being done by providing manpower, buildings materials and equipment. The ongoing Central Sector Health Programme can be broadly classified into (a) centrally sponsored schemes; and (b) purely Central schemes. Centrally sponsored schemes are mainly meant for various disease control programmes, both communicable and non-communicable, various training programmes to develop health manpower etc., and through these programmes states/UTs all over the country are being assisted for handling the above situation. About 70 per cent of the allocated funds are spent in the rural areas for prevention and control of various diseases. By way of purely Central schemes, financial assistance is given to about 30 institutions (both autonomous and under the Government). These institutions are responsible for contribution in the field of control of communicable, non-communicable diseases, medical education, training, research and patient care, etc.

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During 1992-93, Rs 447 crore was allocated for the health sector including Rs 61 crore to fight AIDS and Rs 84 crore for Social Safety Net Programme.

NATIONAL HEALTH PROGRAMMES

The Ministry has taken up several national health programmes to combat communicable, non-communicable and other major diseases.

MALARIA

National Malaria Eradication Programme is the world's biggest health programme against a single communicable disease and continues to be the country's most comprehensive and multifaceted public health activity. With the successful implementation of programme in 1958, the annual incidence of malaria was drastically reduced from 7.5 crore at the time of Independence to about one lakh in 1965. Deaths due to malaria were completely eliminated. Unfortunately due to various factors these achievements could not be maintained. Resurgence of malaria necessitated renewed vigorous anti-malaria activities and the programme was modified in the context of escalating malaria incidence. The Modified Plan of Operation was implemented from April 1977. Since then, there has been a gradual downward trend in malaria cases and there were only 20.19 lakh incidents in 1990 and 18.13 lakh (provisional) in 1991.

FILARIA

For the control of filariasis, the National Filaria Control Programme was launched in 1955. Activities taken up under the Programme include (i) delimitation of the problem in hitherto unsurveyed areas and (ii) control in urban areas through recurrent antilarva measures and antiparasitic measures. It is estimated that 38.9 crore people are living in 175 known endemic districts. At present about 4.43 crore people in urban areas are being protected through antilarval measures by 206 control units and 27 survey units and 195 clinics.

Training in filariology is imparted at three Regional Filaria Training and Research centres situated at Calicut, Rajahmundry and Varanasi under the National Institute of Communicable Diseases of Delhi.

KALA—AZAR

Kala-azar is endemic in Bihar and West Bengal. Until 1990-91 funds for its control was provided by the Directorate of National Malaria Eradication Programme. However during 1990-91 Rs 4. 06 crore was provided for Kala-azar control in the states of Bihar and West Bengal. Upto October 1992 about 68, 175 cases and 1,267 deaths were reported from these two states. The Centre provides insecticides and imported anti Kala-azar drug and technical guidance to the affected states.

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The strategy for Kala-azar control broadly includes (i) interruption of transmission for reducing vector population by undertaking indoor residual insecticidal spray twice annually, (ii) early diagnosis and complete treatment and (iii) health education for community awareness in involvement.

SEXUALLY TRANSMITTED DISEASES

Sexually transmitted diseases (STD) was introduced as a National Control Programme during the Second Five Year Plan by the Government of India as Centrally aided scheme. However, it was converted into a Centrally sponsored scheme during the Fourth Five Year Plan. Recognising STD as one of the major factors for transmission of HIV infection, the programme has been merged with the AIDS Control Programme. The Government has laid emphasis mainly on teaching, training, research, epidemiology and health and community education in sexually transmitted diseases.

Government has established five regional STD teaching-cum-training centres, STD reference laboratories and survey-cum-epidemeological units at Calcutta, Delhi, Hyderabad, Madras and Nagpur to function on a zonal basis. As in December 1992 these centres have trained 86 medical officers and 92 para-medical personnel like technicians, nurses, health educators, etc.

Voluntary organisations play a very significant role in NPCB. They are active in the field of educative preventive, rehabilitative and surgical services for control of blindness. As a new concept in prevention of blindness all states/UTs have been asked to form District Blindness Control Societies which are to be registered under the Societies Registration Act XXI of 1860. So far 40 such societies are formed. As an agreement signed between India and Denmark in 1989 DANIDA is proividing Rs 22.25 crore assistance over a period of five years (1989-94) under Phase II for the control of blindness.

GOITRE

Deficiency of iodine in the daily diet may cause goitre and/other iodine deficiency disorders (IDD). Endemic goitre has been recognised as a major health problem in India especially in the Himalayan belt. Results of sample surveys conducted in 216 districts of 25 states and four UTs have identified 186 districts as endemic for IDD. It is estimated that nearly 16.7 crore persons are exposed to the risk of IDD of which 5.4 crore suffer from goitre.

Government launched a fully Centrally sponsored National Goitre Control Programme (NGCP) in 1962 with focus on provision of iodised salt to identified endemic areas. Government has decided in 1985 to iodise the entire edible salt in the country by 1992 in a phased manner. A record production of 26 lakh MT of iodised salt was achieved in 1991-92. About 441 of the 592 private manufacturers licensed by the Salt Commissioner

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have commenced production of iodised salt. The NGCP has been redesignated as Natinal Iodine Deficiency Disorders Control programme (NIDDCP) to emphasise the importance of all the IDDs. As per the direction of the Centre 22 states/UTs have banned the use of salt other than iodised salt for edible purposes under PFA Act and have also set up IDD Control cells in their respective health directorates.

BLINDNESS

National Programme for Control of Blindness (NPCB) was launched in 1975-76 which incorporates the earlier Trachoma Control Programme started in 1968. As per NPCB survey (1986-89) there are 12 million people blind and 8.1 per cent of this blindness is due to cataract which is curable. The National Programme aims at educating people on eye care, extension of opthalmic services to rural areas through mobile opthalmic units and establishing a permanent infrastructure for eye health services within the existing public health delivery system. Since 1981-82 cataract operations have been accorded high priority.

Eighty fully-equiped general mobile units are functioning in different parts of the country. Each units carries out 1, 500 to 2,000 intra-ocular operations every year. Two hundred and seventy six district mobile units are under the programme as extension units of district hospitals. The opthalmology departments of 60 medical colleges have been developed to become community opthalmic centres. Apart from mobile units, 404 hospitals have been upgraded to start an eye unit in each district. So far, 5, 050 block level primary health centres have been provided with opthalmic equipment. The nine regional institutes of opthalmology and Dr Rajendra Prasad Centre for Opthalmic Sciences, New Delhi are being assisted for manpower development, research and referral services.

CANCER

Cancer carries a high mortality rate unless it is detected and treated early. In India at any given time it is estimated that there are 15 to 20 lakh cases and about five lakh new cases occur every year and three lakh cancer patients die every year. Cancer of oral cavity in both sexes and cervix in women are by far the most common malignancies. Breast cancer is also very high. During the Eighth Five Year Plan emphasis is on preventive health education, early detection of cancer and augmentation of treatment facilities in the country.

Surgery, radiotherapy and chemotherapy are the main modalities for treatment of cancer. Surgery and chemotherapy facilities are available in all major hospitals while radiotherapy facilities are available in 112 institutions in the country, the 10 regional cancer centres are (i) Kidwai Memorial Institute of Oncology, Bangalore; (ii) Gujarat Cancer Research Institute, Ahmadabad; (iii) Cancer Hospital and Research Institute, Gwalior; (iv) Cancer Institute, Madras; (v) Regional Cancer Centre, Thiruvanan-

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thapuram; (vi) Regional Centre for Cancer Research and Treatment Society, Cuttack, (vii) Dr B.B. Cancer Institute, Guwahati; (viii) Chittaranjan National Cancer Institute, Calcutta; (ix) Institute Rotary Cancer Hospital, New Delhi and (x) Tata Memorial Hospital, Bombay. During 1992-93 Rs 19 crore has been allocated for the National Cancer Control Programme.

JAPANESE ENCEPHALITIS (JE)

This disease caused by a minute virus and spread by mosquitoes has a high mortality rate of 30 to 45 per cent. Andhra Pradesh, West Bengal, Assam, Tamil Nadu, Bihar and Uttar Pradesh report maximum cases of JE deaths. During 1992 Gorakhpur experienced an outbreak of this disease. Japanese encephalitis vaccine is developed indigenously by Central Research Institute, Kasauli. Funds for JE control activities is utilised out of the NMEP budget.

LEPROSY

Leprosy is a major public health and social problem. All states/UTs report leprosy cases but the endemicity varies from state to state and district to district. There are about 30 lakh leprosy cases in the country. Of these, 15 to 20 per cent are infectious. National Leprosy Control Programme has been in operation since 1955, but it received a high priority only after 1980. The programme was redesignated as National Leprosy Eradication Programme in 1982-83 on the recommendations of an expert group committee. It is implemented as a Centrally sponsored scheme. The programme is goal specific and target-oriented with an ultimate objective to arrest the disease in all known cases of leprosy by the year 2000. As in March 1992, 758 leprosy control units, 900 urban leprosy centres, 291 temporary hospitalisation wards, 285 district leprosy units, 6,097 Survey Education and Treatment (SET) centres, 49 leprosy training centres and 39 sample survey-cum-assessment units have been established in various states/union territories under the programme.

The treatment of leprosy cases with a number of drugs instead of one, has been found highly effective. Government has recognised the advantage of Multi-Drug Treatment (MDT), over traditional single drug therapy *i.e* Dapsons monotheraphy. All 201 endemic districts have been covered on MDT in addition to 41 low endemic districts. At the end of March 1992 a total of 16.9 lakh leprosy cases were on record and getting regular treatment.

About 285 voluntary organisations are supplementing the governmental efforts in the fight against leprosy. All the voluntary organisations operate under the direction of National Leprosy Eradication Board. Over 6.5 lakh leprosy cases are on the records of voluntary organisations. World Bank assistance has been proposed for rapid expansion of the programme in future.

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TUBERCULOSIS

Tuberculosis is another major public health problem. About 1.5 per cent of the population is estimated to be suffering from radiologically active tuberculosis of the lungs of which 0.4 per cent are sputum positive and infectious cases.

At present, district TB centres are functioning in 388 districts to undertake TB Control Programme in association with general health and medical institutions. In addition to it, 330 TB clinics are functioning mainly in urban areas. Primary health centres have also been involved effectively in TB detection and treatment activities. In rural areas, multipurpose health workers and village health guides are also being involved in motivation and health education activities under the programme. There are about 47,000 TB beds available in the country for treatment of serious and emergent TB patients. National Tuberculosis Institute, Bangalore, which was established in 1959, is monitoring the National TB Programme.

Essential activities under the programme have expanded considerably during the last five years. Targets have been laid for detection of new TB cases from 1982-83 and for sputum examination of new chest symptomatics at the primary health centres each year since 1983-84. During 1992 about 12 lakh new TB cases were detected. Duration of treatment for TB patients with conventional regimens is of 12 to 18 months and is believed to be one of the major causes for irregularity and premature stoppage of the treatment by the patients. With the advent of Rifampicin and Pyrazidmide, it has become possible to reduce the duration of treatment to six to eight months. Short course chemotherapy drug regimens containing Rifampicin and Pyrazidmide are being introduced in District TB Programme under the National Tuberculosis Control Programme in a phased manner. So far 253 districts have been brought under it.

MEDICAL RELIEF AND SUPPLIES

HOSPITALS AND DISPENSARIES

Medical services are primarily provided by the Central and state governments. Certain charitable voluntary and private institutions also provide medical relief. The district and sub-divisional hospitals are being further developed by removing deficiencies in referral services. The number of hospital beds (both government and private) was 6.19 lakh as on 1 January 1991 as compared to 1.13 lakh in 1951-52. The bed-population ratio as on 1 January 1991 is 0.74 per 1,000 population, which was 0.24 at the commencement of First Plan. The number of registered doctors at the end of 1990 was 3.65 lakh and nurses at the end of 1989 was 2.65 lakh.

PRIMARY HEALTH CENTRES

Primary health care is being provided to rural population in the country through a network of 22,229 primary health centres, 1, 31, 379 sub-centres

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and 1, 923 community health centres by 5.99 lakh trained *dais* and 4.17 lakh health guides, besides a large number of rural dispensaries working under state governments/union territory administrations. It is proposed to expand these facilities further in a phased manner so as to have one primary health centre for every 30,000 population (20,000 in hilly and tribal areas), one sub-centre for every 5, 000 population (3,000 population in hilly and tribal areas) by 31 March 1991 and one community health centre for about every one lakh population by 2, 000 AD.

CENTRAL GOVERNMENT HEALTH SCHEME

The Central Government Health Scheme (CGHS) was introduced on 1 July 1954 as the 'contributory health scheme' in Delhi with a view to provide comprehensive medical care facilities to the Central government employees and the members of their families and to do away with cumbersome and expensive system of reimbursement of medical expenses. It has been extended to Bombay, Calcutta, Patna, Madras, Hyderabad, Bangalore, Pune, Nagpur, Ahmadabad, Jaipur, Kanpur, Allahabad, Meerut and Lucknow. The peripheral towns of Gurgaon, Faridabad and Ghaziabad have also been covered under the CGHS Delhi. As on 1 April 1992 there are 229 allopathic dispensaries, 10 poly-clinics, 31 *ayurvedic* dispensaries/units, 34 homeopathic dispensaries units, eight *Unani* dispensaries/units, two *siddha* units and three *yoga* centres in the cities where the scheme is in operation. In January 1993 a new CGHS dispensary for NOIDA has been sanctioned. The scheme presently covers 41.20 lakh beneficiaries. With effect from 10 June 1985, all dispensaries have been working in single shift with augmented evening services. However, some of the dispensaries are being run for continuous 12 hours on an experimental basis.

Besides Central government employees, the other sectors of population now availing CGHS facilities include employees of certain autonomous organisations, retired Central government servants, widows of Central government employees in receipt of family pension, MPs and ex-MPs, ex-Governors, ex-Vice Presidents, retired judges of Supreme Court and High Courts, freedom fighters and members of the general public (in 14 specified areas in Delhi). Since November 1984, the Central government pensioners have been made eligible for reimbursement of cost of hospitalisations and specialised treatment including cost of artificial appliances.

To increase the number of service institutions as well as to offer better service to CGHS beneficiaries all government hospitals such as Army, Railway, ESI and state government/municipal hospitals have been recognised under CGHS with effect from 8 May 1986. Now the Central Government pensioners are able to avail of the CGHS facilities from their nearest dispensary irrespective of the fact as to whether they are residing within the jurisdiction of the scheme or not.

In order to expedite disposal of reimbursement of medical expenses

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claims, powers to reimburse the cost of artificial appliances have been delegated to the administrative ministries/departments. The out-station pensioners have been allowed to obtain medicines from the approved chemists/super bazars through authority slip issued by the concerned deputy director for a period specified by the specialist at a time.

INDIAN SYSTEMS OF MEDICINE

Indian systems of medicine (ISM) include *Ayurveda, Siddha, Unani, Amchi,* Tibetan, Naturopathy and *Yoga*. Government of India is committed to promote these systems alongwith homeopathy as part of our total health programme. Steps initiated in this regard are: improvement in quality of education, promotion of research-based study primarily on the principles and philosophy of each of the system, development of medicinal plants, laying of pharamacopoeial standards, and providing drug testing facilities, etc.

There has been a gradual increase in the Plan allocation both under Central and state sectors for these systems from a mere Rs 40 lakh in the First Five Year Plan to Rs 129.05 crore in the Seventh Plan. The Central outlay also increased from Rs 29 crore in the Sixth Plan to Rs 43.25 crore in the Seventh Plan. During the Eighth Plan, the thrust has been laid on strengthening of ISM.

The National Health Policy assigns an important role to the Indian systems of medicine/Homeopathy in the delivery of primary health care and envisages its eventual integration in the overall health care delivery systems in the context of our national target of 'Health For All' by 2000 AD. Homeopathy owes its origin to the German physician Dr CFS Hahneman. It spread in India through Bengal. There are about four lakh practioners of ISM and 1.5 lakh homeopaths and about 220 colleges producing 9,000 graduates/diploma holders every year. Practitioness of Indian systems of medicine practising in rural and urban areas enjoy high local acceptance and respect. After Independence institutions parallel in those existing in Allopathy were formed in order to develop these systems.

PHARAMACOPOEIAL STANDARDS AND DRUG TESTING FACILITIES

Four pharamacopoeial committees are working for preparing official formulations/pharamacopoeias to maintain uniform standards in preparation of drugs and prescribe working standards for compound formulations including tests for indentifying purity and quality of drugs. They are (i) Ayurvedic Pharmacopoeia Committee; (ii) Unani Pharamacopoeia Committee; (iii) Siddha Pharamacopoeia Committee and (iv) Homeopathic Pharamacopoeia Committee.

Pharmacopoeia Laboratory for Indian Medicine, Ghaziabad was established in 1970 as a standard-setting-cum-drug-testing laboratory for Indian medicines including *Ayurveda, Unani* and *Siddha* systems at the national level.The laboratory has preserved more than 2000 standards specimens of

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crude drugs in the museum. During the year it has worked out standards of 15 single drugs and 20 compound formulations for consideration by the Ayurvedic Pharamacopoeia Committee. The laboratory also imparts training to drug analysts.

Homoeopathic Pharmacopoeia Laboratory, Ghaziabad is a high technology based standard and setting-cum-drug-testing laboratory for homoeopathic medicines. Homeopathic medicines are covered under the Drugs and Cosmetics Act, 1940. During the year the laboratory completed fixation of standards for 42 basic drugs and 19 finished products. It has also completed drug testing of 199 survey samples. It also maintains a medicinal plants garden and a seed germ plasm bank of rare and exotic plants. There are two councils *viz:* (i) Central Council of Indian Medicines (CCIM) and (ii) Central Council of Homeopathy responsible to lay down and maintain uniform standards of education and regulate the professional practice of the practioners in the field of ISM and homeopathy respectively.

RESEARCH

Four research councils *viz.* (i) Central Council for Research in Ayurveda and Siddha (CCRAS), (ii) Central Council for Research in Unani Medicines (CCRUM), (iii) Central Council for Research in Homeopathy (CCRH) and (iv) Central Council of Research in Yoga and Naturopathy (CCRYN) have been established to initiate, aid, guide, develop and coordinate scientific research in different aspects of the respective systems both fundamental and applied. These Councils are the apex bodies for research in the concerned system of medicine and are fully financed by Government.

RASHTRIYA AYURVEDA VIDYAPEETH

The Rashtriya Ayurveda Vidyapeeth, New Delhi an autonomous body, was registered on 11 February 1988 as a Society under the Society Registration Act, 1916. The main objective of this Vidyapeeth is to promote knowledge of *Ayurveda* to persons possessing post-graduate qualification in *Ayurveda* or graduate with three years teaching/research/professional experience on traditional lines as continuing education. Nineteen students have been selected for the course which started in November 1992.

NATIONAL INSTITUTES

National Institute of Ayurveda, Jaipur was established in 1976 to develop high standards of teaching, training and research in all aspects of *Ayurvedic* system of medicine. The Institute has two hospitals with IPD and OPD facilities.

National Institute of Homeopathy, Calcutta was set up in 1975 to promote the growth and development of homeopathy. Presently the Institute conducts two courses *viz.* (i) Bachelor of Homeopathy Medicine and Surgery (BHMS), a five-years course officiated to Calcutta University and

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(ii) Post Diploma Course in Homeopathy of two years duration. It maintains a hospital too.

National Institute of Unani Medicine was established in 1987 at Bangalore. It is an autonomous body of the Union Ministry of Health and Family Welfare in collaboration with the Government of Karnataka. National Institute of Naturopathy, Pune was registered under the Registration Act, 1860 with the object of promotion of Naturopathy as a system of medicine and encourage research in all fields of nature cure.

MEDICINAL PLANTS CELL

Ministry has established the Medicinal Plants Cell to look into various aspects related to development of medicinal plants specifically used in drugs of ISM and homeopathy in consultation with other concerned departments/organisations. It has identified 45 species of medicinal plants which require specific steps for their development on priority basis.

INDIAN MEDICINES PHARMACEUTICAL CORPORATION

This is a public sector undertaking of the Ministry at Mohan near Almora, Uttar Pradesh. It was incorporated in July 1978 and started its commercial production in June 1983. The Corporation is engaged in manufacture and supply of pure, genuine and authentic *Ayurvedic* and *Unani* medicines.

DRUGS

The Drugs and Cosmetics Act, 1940, as amended from time to time, regulates import, manufacture, sale and distribution of drugs and cosmetics in the country. Under the Act, import, manufacture and sale of substandard spurious, adulterated or misbranded drugs are prohibited. Government is empowered to check the quality of imported drugs, coordinate the activities of the states, lay down regulatory measures and standards of drugs and grant approval for the import of manufacture of new drugs. The control over the quality of drugs which are manufactured, sold and distributed in the country, is exercised by state governments. Zonal offices of the Central Drugs, Standards, Control Organisation (CDSCO) at Bombay, Calcutta, Ghaziabad, and Madras maintain close liaison with state organisations for enforcment of the provisions of this Act. CDSCO also arranges training programme for the personnel concerned with drugs standard control.

Central Drugs Laboratory, Calcutta, functions as the testing laboratory for imported drugs and analytical quality control of drugs manufactured within the country on behalf of the Centre and state drugs control authorities. It is the appellate laboratory under the Drugs and Cosmetics Act to test samples of drugs sent to it by courts. Central Indian Pharamacopoeial Laboratory, Ghaziabad tests samples of non-biological drugs included in the Indian Pharamacopoeia.

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PRICES

Prices of bulk drugs formulations have been under statutory control since 1962, but more effectively from 1970. The Drugs (Prices Control) Order, 1970, has now been replaced by the Drugs (Price Control) Order, 1979. As a result of these measures, the wholesale price index of drugs and medicines has been kept already vis-a-vis other commodities.

VACCINE PRODUCTION

India is self-sufficient in the production of all vaccines including measles required for immunization programme except polio. The polio vaccine is imported in bulk in a concentrated form. It is diluted and ampouled at the Haffkine Bio-Pharmaceutical Corporation Limited, Bombay. The indigenous production of polio vaccine is also to start soon.

OBJECTIONABLE ADVERTISEMENT

The Drugs and Magic Remedies (Objectionable Advertisement) Act, 1955, prohibits the publication of objectionable advertisements relating to sexual stimulants, alleged magic cures for venereal disease and diseases peculiar to women. The Act, as amended in 1963, also prohibits import and export of objectionable advertisement and authorises the customs and postal authorities to intercept articles suspected to contain such advertisements.

MEDICAL STORES ORGANISATION

Medical Stores Organisation (MSO), with seven units at Bombay, Calcutta, Guwahati, Hyderabad, Madras, Karnal and Delhi, is responsible for procurement and supply of quality medical stores including equipments to about 1, 800 regular indentors over the country at most economical rates. MSO has three chemical laboratories, attached to the medical stores/depots at Bombay, Calcutta and Madras. Most of the clients are small hospitals and dispensaries in rural or sub-urban areas. Apart from general supplies, it receives supplies from international agencies like UNICEF, SIDA, WHO, USAID, etc., and distributes them all over the country. Various drugs and other commodities required for running the national health programmes like Leprosy Eradication Programme, TB Control Programme, Malaria Eradication Programme and Family Welfare Programme are handled by the Organisation. It arranges relief supplies to vicitims of natural and national calamities like droughts, floods, cyclones, wars, agitations, etc. MSO has also taken over the responsibility of making supplies of medical stores to CGHS throughout the country. Besides, it arranges gift supplies to foreign countries at the instance of the Ministry of External Affairs. At its Bombay and Madras factories, a large number of formulations such as tinctures, bandages, syrups, tablets and ointments, are manufactured to meet the requirement of indenting units.

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FOOD ADULTERATION

The Prevention of Food Adulteration Act, 1954, has been in force since June 1955 with the objective of ensuring that quality food is sold to consumers. It also aims at preventing fraud or deception and encourging fair trade practices. A minimum imprisonment of six months with a minimum fine of Rs 1, 000 is envisaged under the Act for cases of proven adulteration whereas for cases of adulteration which may render the food injurious to cause death or such harm which may amount to grievous hurt, the punishment may go upto life imprisonment and a fine which shall not be less than Rs 5,000.

The administration of the Act and the provisions thereunder is the primary responsibility of state governments and union territory adminstrations. The Central Government lays down broad policies in this regard, carries out the necessary amendments to the Act and rules and advises states/UTs in the effective implementation of the programme. For advising the Centre or the states with regard to implementation of the Act, there is a statutory body, namely Central Committee for Food Standards. The Committee is assisted by various technical sub-committees. The Act, is by and large, implemented by local bodies.

There are four central food laboratories *viz.* Central Food Laboratory at Central Food Technological Research Institute (CFTRI), Mysore; Central Food Laboratory at Food Research and Standardisation Laboratory, Ghaziabad; Central Food Laboratory at State Public Health Laboratory, Pune and Central Food Laboratory, Calcutta. Samples are sent to these appellate laboratories by courts. Statements of facts contained in the report given by the laboratories are considered to be the final and conclusive evidence. There are 78 food laboratories under the control of state governments/local bodies. The samples lifted by food inspectors are sent to these laboratories and on the basis of the reports, prosecutions are launched in courts.

Under joint FAO/WHO Food Standards Programme, Codex Alimentarius Commission has been established to formulate world-wide standards for food. India is also a member of this body. A National Codex Committee has been set up under the Ministry of Health and Family Welfare to formulate the Indian viewpoint on various matters concerning international food standards programme.

Training being an important component of the programme for prevention of food adulternation, the Directorate General of Health Services organises inservice training programmes for different functionaries responsible for its implementation. It also organises training in collaboration with various institutes in the country. Fellowships are provided by WHO for training analysis in sophisticated methods of analysis.

NUTRITION

Major nutritional problems in India are protein energy malnutrition, vitamin A deficiency and anaemia. Besides, goitre is widely prevalent and

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lathyrism is localised to certain regions. The Nutrition Cell in the Directorate General of Health Services provides technical advice on all related matters in the field of nutrition. State nutrition division set up in 17 states and UTs assess the diet and nutritional status in various groups of population, conduct nutrition education campaigns and supervise supplementary feeding programmes and other nutritional ameliorative measures. Surveys conducted by states' nutritions divisions and National Nutrition Monitoring Bureau under ICMR reveal that malnutrition and other deficiency disorders are found more in young children and pregnant and lactating mothers. To combat these problems government has initiated several schemes. The Integrated Child Development Scheme provides a package of service to fight this problem. To prevent blindness among children due to vitamin A deficiency concentrated dose of vitamin A is given orally every six months through peripheral health workers. Similarly to prevent nutritional anaemia among women and children combined tablets of iron and folic acid are distributed through health centres.

National Institute of Nutrition, Hyderabad and All India Institute of Hygiene and Public Health, Culcutta are the principle organisations for nutrition research and training.

MEDICAL EDUCATION AND RESEARCH

The Centre has set up regulatory bodies for monitoring standards of medical education and promoting training and research activities.

MEDICAL COUNCIL OF INDIA

The Medical Council of India was established under the Indian Medical Council Act, 1933 and later repealed by the Indian Medical Council Act, 1956 with minor amendments in 1958 and 1964. The main functions of the Council are (i) maintenance of uniform standards of medical education at both undergraduate and post-graduate level; (ii) maintenance of All India Medical Register; (iii) reciprocity with foreign countries in the matter of mutual recognition of medical qualification; (iv) continuing medical education; and (v) provisional/permanent registration of doctors with recognised medical qualifications. There are 144 medical colleges in the country with more than 14,000 admission every year. Two Ordinances have been promulgated by the President in August 1992 which prohibits the setting up of medical/dental colleges without the prior permission of the Central Government and Medical Council of India/Dental Council of India.

DENTAL COUNCIL OF INDIA

It was established under the Dentists Act, 1948 with the prime objective of regulating dental education, profession and ethics in the country. It periodically carries out inspections of dental institutions to ascertain the adequacy of teaching facilities. Fortynine dental colleges are functioning in the country with admission capacity of 1, 157 students in BDS Course.

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PHARMACY COUNCIL OF INDIA

The Pharmacy Council of India was constituted under the Pharmacy Act, 1948. It is responsible for regulation and maintenance of uniform standard of training of pharmacists. It also prescribes syllabus and regulations for diploma courses in pharmacy and registration of pharmacists. There are 48 institutions imparting degree course in pharmacy with admission capacity of about 1, 842 per annum.

NATIONAL ACADEMY OF MEDICAL SCIENCES

The National Academy of Medical Sciences was established in 1962 as a registered society with the objective of promoting the growth of medical sciences. It recognises talent and merit in the form of elections of fellows and members of the Academy. To keep medical professionals abreast with new problems and update their knowledge in fields for the required delivery of health care, a programme of continuing Medical Examination (CME) is implemented by the Academy since 1982.

NURSING EDUCATION

Primarily nursing personnel are trained at four levels: (i) Auxiliary Nurse Midwife (ANM): There are 468 ANM schools attached to district hospitals and primary health centres. Many are run by private/missionary organisations. Admission requirement for this training is matriculation and period of training is one and a half year. The ANMs, after successfully completing the course, are registered as Auxiliary Nurse Midwives with various nursing councils and are employed as female health workers at the sub-centre level. They, after five years of field experience, are sent for higher training of health supervisors. Forty four such schools are available in the country; (ii) General Nursing and Midwifery: There are 390 schools of Nursing Midwifery imparting Diploma in General Nursing and Midwifery. Nearly 8,000 nurse midwives qualify from these schools. After registrations as nurse midwives, they are appointed as staff nurses in hospitals, health centres, etc. The admission requirement for the course is senior secondary and duration of the course is three years. After this diploma, the nurses can obtain B.Sc. degree in nursing in two years which is called Post Basic B.Sc. Ten such programmes exist in several univesities/medical colleges in Punjab, New Delhi, Madras, Bangalore, Calcutta, etc. Besides these states, Assam too is planning such programmes for updating knowledge and skills of practising nurses; (iii) B.Sc. nursing: There are 19 colleges of nursing which admit candidates with senior secondary (minimum 50 per cent marks) for B.Sc Nursing Course of four years duration. After qualifying these, nurses can work in hospitals, community and special areas of hospitals and specialised community programmes like School Health, Occupational Health, Nursing etc. Nearly 450 nurses obtain degree in nursing every year. New colleges have come up in Karnataka and Tamil Nadu which are yet to be recognised and (iv) Master degree in Nursing: Eight colleges in the country offer Masters degree in nursing for B.Sc./Post Basic

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Nurses. About 50 nurses obtain this degree. Many of them are holding senior teaching and administrative positions.

INDIAN NURSING COUNCIL

Indian Nursing Council which was set up in 1947, lays down the minimum standards of nursing education. It prescribes syllabi for different training programmes, inspects schools of nursing and maintains statistics of nursing manpower.

NURSING SERVICES

Several steps have been taken to improve the status of nursing and nursing profession. A high power committee was set up to review all aspects of nursing profession *i.e.* nursing education, nursing services and nursing manpower. Efforts have also been made to revise the pay scales and allowances for nursing personnel. Nurses also enjoy all benefits of pension, bonus, GPF, etc., like other Government employees.

HEALTH EDUCATION

Central Health Education Bureau (CHEB) is an apex organisation in health education in the Directorate General of Health Services. The organisation was set up in 1956 to coordinate and promote health education through various divisions. Its activities include interpreting plans and programmes of Government, training of health, and community welfare workers in health education, preparing and distributing health education material to be adopted by states and other agencies, carrying out research in behaviour changes of the community in relation to health practices, evolving effective methodology for training, rendering technical assistance to official and non-official agencies in the field of health education, developing health education syllabi for different age groups of school children and teachers, training courses and cooperating and collaborating with international agencies in promoting health education.

The Bureau deals with the development of health education bureaux in states and union territories. So far, all states and six union territories have set up health education bureaux besides one hundred and forty two district health education units. The bureau keeps close liaison with all health education units in addition to providing technical guidance. It now publishes four journals, namely, *Swasth Hind* (English monthly), *Arogya Sandesh* (Hindi monthly) *DGHS Chronicle* (English quarterly) and *Swasthya Shiksha Samachar* (Hindi quarterly).

The Central Health Education Bureau brings out printed publicity material for various national health programmes, besides prototype health education material to be adopted by states in regional languages according to their needs. It also provides communication and media support to various national health programmes and maintains liaison with AIR and

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Doordarshan for broadcasting and telecasting such programme. It organises exhibitions and helps in production of films, radio and TV spots on health.

Research and Evaluation Division of CHEB is engaged in carrying out research in relation to acceptance of health practices. The Division has so far completed 75 research studies on malaria, smallpox, STD, leprosy, nutrition, water supply, expanded programme on immunization and training programme. Besides four other research studies are in progress. It has brought out nine technical paper/reports. It also trains health professionals in research methodology. Seven such training courses have been conducted.

The Bureau conducts a Post-graduate diploma in health education affiliated to the University of Delhi and recognised by the Medical Council India. It also conducts two courses of two months duration leading to certificate in health education and nine other in-service courses for medical and para-medical personnel.

School Health Education Division of CHEB monitors a Centrally sponsored national school health service scheme since April 1977. Its objective is to provide school health services to students of primary classes in rural areas through the network of primary health centres. It is also working with NCERT, Board of Secondary Education and UGC to integrate health education in school and university curricula.

INDIAN COUNCIL OF MEDICAL RESEARCH

The Indian Council of Medical Research (ICMR) is the apex body in India for the formulation, coordination and promotion of biomedical research. The primary functions of the Council are discharged through its permanent research institutes/centres (20 at present), regional medical research centres, centres for advanced research, research units, task force projects and national multicentric collaborative projects in different parts of the country. In addition, there are adhoc schemes and fellowships generated by active scientists in biomedical institutions/universities in different parts of the country. ICMR also attempts to strengthen indigenous capabilities, promote a broad-based and balanced cadre of research personnel in the country and develop facilities to tackle the present and future health problems.

HEALTH PRIORITIES

The Indian Council of Medical Research's priorities coincide with the national priorities such as control and management of communicable diseases, fertility control, maternal and child health, control of nutritional disorders, developing alternative strategies for health-care delivery; containment within safety limits of environment (and occupational) health problems, research on major non-communicable diseases like cancer, cardiovascular diseases, blindness, diabetes and other metabolic and

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hematological disorders, mental health research and drug research (including traditional medicine). All these efforts are undertaken with a view to reducing the total burden of diseases and to promote health and well-being of the people. Apart from the print media, the audio-visual media is being used more and more for disseminaton of biomedical information.

FAMILY WELFARE

One of the most crucial problems facing the nation today is the burgeoning population which has been growing at an alarming rate. By 1981, India's population had doubled itself since 1947 and has touched 8,463 lakh in 1991. It is increasing by about 170 lakh every year. Such a rapid increase in population has very serious repercussions on socio-economic development. Varying social customs and beliefs favour large family which impede the process of change and willing adoption of modern methods of contraception. A universal desire to have atleast one or two male children and the mean age of marriage of women at 18.3 years also become contributory factors to large families. Inspite of this, India is committed to attaining the twin goals of 'Health for All' and 'Net Reproduction Rate of Unity' by the year 2000.

In keeping with democratic traditions of the country, Family Welfare Programme seeks to promote on a voluntary basis, responsible and planned parenthood with two-child norm, male and female, or both, through independent choice of family welfare methods best suited to the acceptors. Family welfare services are offered through total health-care delivery system. People's participation is sought through voluntary agencies, opinion leaders, people's representatives, government functionaries and various other structures and influential groups. Imaginative use of mass media and interpersonal communication is resorted to for explaining various methods of contraception and removing socio-cultural barriers. As a result, the number of acceptors of various family planning methods have started increasing over the years.

IMPLEMENTATION MACHINERY

These programmes are implemented through state governments with cent per cent Central assistance. In rural areas, it is being further extended through a network of primary health centres and sub-centres. During the Seventh Plan period 45,169 sub-centres were established in addition to 84,400 sub-centres already established upto the end of the Sixth Plan. Subsequently, 7,14, 494 and six additional number of sub-centres were established during the years 1990-91, 1991-92 and 1992-93 (upto 1 March 1993) respectively.

BIRTH CONTROL METHODS

During 1992-93 (upto March 1993) 41.76 lakh sterilisations were performed in the country. The number of IUD insertions during the same

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period was 46.23 lakh. The total number of acceptors of different methods was 266.55 lakh. *Nirodh* besides being provided free is also sold under the social marketing programme which is being operated through a network of over three lakh retail outlets of eleven leading consumer goods, pharmaceutical and oil companies. With a view to make condoms available in rural and far-flung areas at reasonable prices, scheme of distribution of condoms through Public Distribution System has already been implemented in many states.

Oral pill programme under free distribution scheme was extended to all urban centres, including those run by local bodies and voluntary organisations. Besides this, social marketing of oral pill under the brand name '*Mala-D*', has been undertaken with the help of four pharmaceutical companies on zonal basis.

It is estimated that 43.5 per cent of 14.84 crore eligible couples whose wives are in the reproductive age-group of 15-44 years were protected by one or the other approved family planning methods as on 31 March 1992 averting 14.30 crore births since inception of the programme.

MEDICAL TERMINATION OF PREGNANCY (MTP)

It is estimated that about one fourth of the maternal morbidity and mortality are due to illegal abortions. In order to prevent these health hazards to women the Medical Termination of Pregnancy Act, 1971 was promulgated. Under this Act, medical termination of pregnancy can be done in pregnant women upto 20 weeks if, pregnancy is likely to result in birth of a congenitally malformed child or continuation of pregnancy is likely to harm the mother in the existing circumstances and in cases of contraceptive failure.

Research studies in India have shown that vacuum aspiration is a safe and effective methods for terminating first trimester (three months) pregnancy. During the last few years studies on first trimester MTP using antiprogestin compounds like RU 486, alone or along with prostaglandins are being carried out to see whether these could provide a safe, effective non-surgical method for termination of early pregnancy. It has been observed that about 10-15 per cent of abortion seekers come during second trimester of pregnancy. A wide variety of methods have been investigated for second trimester MTP. Whatever is the method used, second trimester of pregnancy termination is not as safe as first trimester pregnancy termination. All available data indicate that in order to minimise health hazards, women should come for termination soon after she misses her period.

To avoid the recurrence of an unwanted pregnancy women should be provided with concurrent contraception; IUDs, OCs, condoms, etc., or sterilization if she has completed her family. Since inception of the programme in April 1972, 839 lakh terminations upto September 1992, were conducted under MTP Act.

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MATERNAL AND CHILD HEALTH CARE PROGRAMMES

The National Health Policy (1983) in context of the global objective of 'Health for All by 2000 A.D.' has *inter alia*, set the following normative goals related to maternal and child health care: (a) reduction in infant mortality to less than 60 per thousand live births. In 1991 the infant mortality rate (IMR) stood at 80 per thousand live births, according to the results of the Sample Registration System (SRS) carried out by the office of Registrar General of India; (b) reduction in maternal mortality to below 200 per one lakh live births. According to estimates the current level of maternal mortality varied between 400-600 per 100,000 live births in various parts of the country; (c) reduction in child (1-4 year) mortality to less than 10 per thousand child population. The current level (1989) of child mortality is estimated at 29.9 per thousand child population.

As a part of the overall startegy to achieve these goals, the following specific programmes have been under implementation as cent per cent Centrally sponsored schemes: (i) universal immunization programme (under implementation since 1985-86), for reducing mortality and morbidity due to six vaccine preventable diseases namely diphtheria, pertussis, tetanus, poliomyelitis, measles and childhood tuberculosis. The primary target group for this programme is infants and pregnant women. When the immunization programme was launched in 1985 IMR for the country as a whole was 97 for every thousand live births. The intensification of immunisation programme has contributed to a significant decline in IMR in the last few years. The decline has been particularly pronounced in 1990 as compared to earlier years. During that year the IMR declined (by 11 points) to 80 per thousand live births from 91 in 1989; (ii) Oral Rehydration Therapy (ORT) Programme (under implementation since 1986-87), for reducing mortality and morbidity due to dehydration caused by diarrhoea. The primary target of this programme is children under five years of age. Diarrhoeal diseases are a major health problem in the country especially among children below five years of age. On an average, a child suffers three episodes of diarrhoea per year due to diarrhoea or diarrhoea related causes. The National Diarrhoeal Diseases Control Programme, initiated in the Sixth Plan, was therefore, intensified in the Seventh Plan with a conscious decision to promote Oral Rehydration Therapy; and (iii) Prophylaxis Schemes (under implementation since Fourth Plan period), against nutritional anaemia among pregnant and lactating women as well as children and against blindness due to vitamin 'A' deficiency among children under five years of age. Nutritional anaemia is one of the major public health problems especially affecting pregnant and lactating women and pre-school children. Anaemia affecting the mother also affects inter-uterine growth of the foetus. Similarly, nutritional anaemia among pre-school children makes them susceptible to more diseases and death. Vitamin A deficiency is widely prevalent in the country among the pre-school children.

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CHILD SURVIVAL AND SAFE MOTHERHOOD PROGRAMME

The package of services under Child Survival and Safe Motherhood Project are to be expanded under two major components: (a) child survival component under which the ARI control programme will be expanded along with provision of the kit based supply of drugs; and (b) safe motherhood component under which first referral units will be set up in the six states of Assam, Bihar, Himachal Pradesh, Orissa, Rajasthan aud Uttar Pradesh.

SPECIAL SCHEMES

ALL INDIA HOSPITALS POST PARTUM PROGRAMME

An all India hospital post partum programme (AIHPP) was introduced in 1969. It is a hospital-based, maternity centered approach to family planning. The primary objective of the post-partum programme is to improve the health of the mother and children through MCH and Family Welfare Programme which includes antenatal, neonatal, and postnatal services; immunization services to children and mothers; and prophylaxis against anaemia and blindness. The programme is based on the following rationale: (a) that women who have recently delivered are of proven fertility, and are at risk to become pregnant again rapidly; and (b) at the time of delivery and during the lying-in-period, they are generally more receptive to adopt one or the other family planning method. The post-partum programme offers necessary facilities to such women. It has proved to an efficient way of delivering family planning services. The programme now covers 550 medical institutions at national, state and district level inclusive of 104 medical colleges and two post-graduate institutions. With a view to provide MCH and family welfare services in rural and semi-urban areas, as well as to improve the health of mothers and children, the post partum programme has been extended to 1,001 sub-divisional and sub-district hospitals.

POST PARTUM PAP SMEAR TEST FACILITY AT MEDICAL COLLEGES

In order to detect cervical cancer among women acceptors and non-acceptors of various family welfare methods, the PAP smear test fecility programme has been introduced in all the medical colleges of the country. Under the scheme, a post of a cyto-technician as per state government's scale of pay and financial assistance or contingencies provided. The cyto-technician is required to work under the overall guidance and supervision of the professor of pathology of the medical college. The programme has been extended in a phased manner in 105 medical colleges all over the country. The state governments have sanctioned the programme in 75 medical colleges only.

STERILISATION BEDS SCHEME

Under the scheme, beds are provided to voluntary organisations/local

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bodies/institutions on the basis of their performance of previous years and on the recommendations of the state government and regional director of Health and Family Welfare of the respective state.Maintenance grant under this scheme at the rate of Rs 3,000 per bed per annum is provided to each institution subject to a minimum performance of 75/60 tubectomies per bed per annum for government institutions and local bodies/voluntary organisations respectively. A total of 3,610 sterilisation beds have been reserved under the scheme.

URBAN FAMILY WELFARE CENTRES AND URBAN REVAMPING SCHEME

Urban family welfare centres are on the ground since 1950 to provide Family Welfare services in the urban areas. These are of different categories depending upon the staff sanctioned and area covered by them.In all, 1,737 urban family welfare centres are functioning in the states/union territories, including 208 urban centres under Ministry of Railways and Ministry of Labour, etc.

On the recommendation of a Working Group it was decided to reorganise the existing urban family welfare centres to establish new health posts preferably in the urban slum areas. Accordingly,all the states/union territories were requested to send the proposals in respect of cities in their states. At present the scheme is functioning in 10 states.

TRAINING OF HEALTH WORKERS FOR SUBCENTRES

Each sub-centre is manned by one female health worker and one male health worker Auxiliary Nurse Midwife. In order to train the required number of ANMs, there are 468 ANM training schools functioning all over the country with an annual admission capacity of 19,775. The requirement of Multi-purpose Worker (Male) (MPW (M)) for the sub-centres was initially met by the conversion of unipurpose workers to multi-purpose workers under the MPW scheme which has come to an end in 1990. Presently, basic training to MPW(M)is being given in MPW(M) schools, which is a cent per cent Centrally sponsored scheme. The training perod is of one year duration and the basic qualification required for admission is 10th pass.There are at present 1,22,530 ANMs and 63,907 MPW(M)in position in the rural areas.

MOTIVATION AND EDUCATION

Family welfare programme in India depends on its voluntary acceptance by the people. To approach above 14.50 crore couples in the reproductive age group, living in urban and remote rural areas, a broad-based mass education and motivation programme has been launched. The multi-media campaign is being implemented by media units of the Ministry of Information and Broadcasting, state mass education media set-ups and other publicity agencies / organisations. The Ministry of Health and Family Welfare lays down the communication strategy, develops plans and coordinates the

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media and extension activities of various participating media agencies. The mass mailing units of the Department of Family Welfare disseminates information in the form of printed material to various categories of opinion leaders through direct mail service. The Division brings out two monthly journals - "*Centre Calling*" in English and "*Hamara Ghar*" in Hindi.

AREA DEVELOPMENT PROJECTS

The area development projects have been taken up in different states with the financial assistance from external funding agencies like World Bank, United Nations Fund for Population Activities (UNFPA), Overseas Development Administration (ODA) and DANIDA with the aim of reducing maternal and child mortality and morbidity and birth rates. These objectives are sought to be achieved by improving the quality and availability of health and family welfare services through the strenthening of the service delivary infrastructure of the states and by making available facilities for upgrading skills of the concerned manpower through better training and programme management. Construction of institutional buildings for service delivery and training in addition to positioning of trained staff in the service centres received attention under the projects.

The Area Projects were initially taken up in 1973 in a few selected districts of Karnataka and Uttar Pradesh with the financial assistance of World Bank. During subsequent Plan periods, the scheme was continued and extended to cover more districts and states. Currently, 17 Area Projects are being implemented in 14 states with the assistance of donor agencies.All India Population Project V111 is also proposed to be taken up shortly for the urban slums of four major cities of Calcutta, Delhi, Bangalore and Hyderabad.

RESEARCH AND EVALUATION

Research activities continued in the field of demography and also communication through 18 population research centres in various states. Biomedical research in the field of reproductive biology and fertility control is being done in Indian Council of Medical Research, Central Drug Research Institute and National Institute of Health and Family Welfare.

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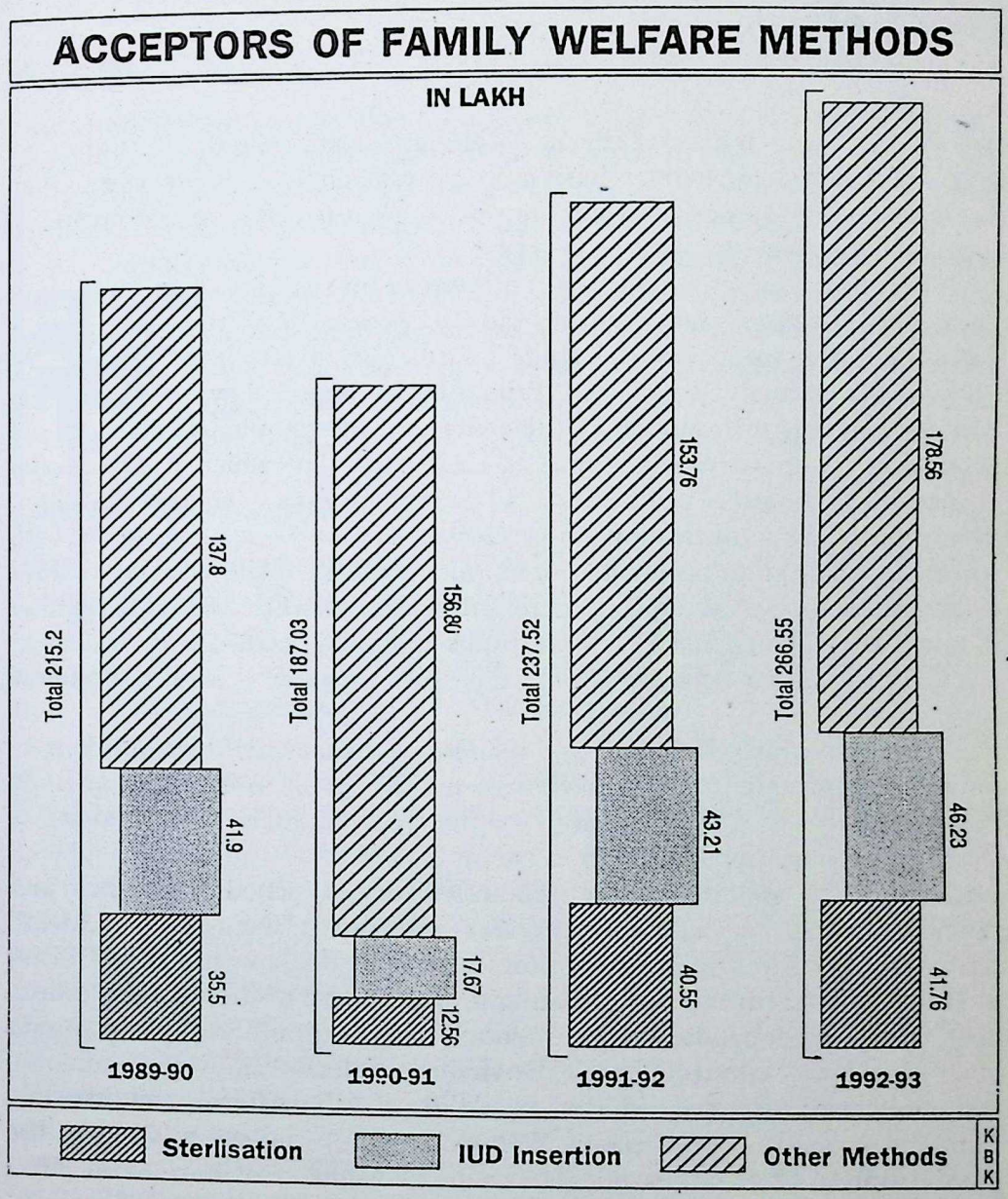

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10 Welfare

WELFARE is not a matter of charity. Welfare programmes in the beginning were directed to provide a few basic curative and rehabilitative services. Over the years, a developmental orientation in contrast to curative and custodial approach was given to welfare programmes.

Our Constitution enjoins upon the states to ensure justice and equity of status and of opportunity to every citizen. Article 17 of the Constitution abolishes untouchability and forbids its practice in any form. Article 38, which forms part of the Directive Principles of State Policy, mentions that "the state shall strive to promote the welfare of the people by securing and protecting, as effectively as it may, a social order in which justice, social economic and political, shall inform all the institutions of the national life," Article 46 of the Constitution requires that the states shall promote with special care the educational and economic interests of the weaker sections of the people in general and the scheduled castes and the scheduled tribes in particular. The rights of the minorities are also specifically mentiond in the Constitution particularly in Part III which enshrines the Fundamental Rights.

Hitherto, welfare of the weaker sections was entrusted to a number of ministries/departments. With a view to providing an integrated thrust to the development of these sections of the population, a new Ministry of Welfare was constituted on 25 September 1985, by integrating subjects concerning; (i) welfare of the scheduled castes, scheduled tribes and religious and socially and economically backward classes/other backward classes, religious and linguistic minorities earlier dealt within the Ministry of Home Affairs; (ii) the work relating to the welfare of the disabled (blind, deaf, dumb, orthopaedically and mentally handicapped) and programmes of social defence, connected with the victims of alcoholism, drug addiction, juvenile maladjustments, welfare of aged dealt with earlier by the erstwhile Ministry of Social and Women's Welfare and (iii) matters relating to the administration of Wakf, earlier dealt with by Ministry of Law. With effect from 26 April 1990, the Department of Women and Child Development was shifted to the Ministry of Welfare, which was as a consequence reorganised into: (i) the Department of Welfare and (ii) the Department of Women and Child Development.

ADMINISTRATIVE SET-UP

Responsibility for implementation of welfare schemes is being shared between Centre and state governments. Centre is responsible for formulating welfare

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policies and programmes besides coordinating, guiding and promoting implementation of welfare services by states.

Activities of the Ministry of Welfare are carried out through five bureaux *viz,* handicapped welfare, social defence, minorities, tribal development and scheduled castes and backward classes.

WELFARE OF SCHEDULED CASTES AND SCHEDULED TRIBES

The scheduled castes and scheduled tribes are specified in accordance with Articles 341 and 342 of the Constitution. According to 1991 Census, the population of scheduled castes and scheduled tribes were 13.82 crore and 6.78 crore constituting 16.48 per cent and 8.08 per cent respectively of the country's total population of 84.63 crore. As compared to 1981 Census (SC population 15.75 per cent and ST population 7.85 per cent of the then total population), there has been slight increase in SC as well as ST population in terms of percentage. While the Constitution has prescribed certain protective measures and safeguards for these classes, successive Five Year Plans have regarded their progress as a major objective of national policy.

CONSTITUTIONAL SAFEGUARDS

The Constitution prescribed protections and safeguards for scheduled castes, scheduled tribes and other weaker sections either specially or by way of insisting on their general rights as citizens with the object of promoting their educational and economic interests and removing social disabilties they are subjected to. Main safeguards are: (i) abolition of untouchability and forbidding of its practice in any form (Article 17); (ii) promotion of their education and economic interests and their protection from social injustice and all forms of exploitation (Article 46); (iii) throwing open by law of Hindu religious institutions of public character to all classes and sections of Hindus (Article 25b); (iv) removal of any disability, liability, restriction or condition with regard to access to shops, public restaurants, hotels and places of public entertainment or use of wells, tanks, bathing ghats, roads and places of public resort maintained wholly or partially out of state funds or dedicated to the use of general public (Article 15 (2)); (v) curtailement by law in the interest of any scheduled tribes of general rights of all citizens to move freely, settle in and acquire property (Article 19(5)); (vi) forbidding or any denial of admission to educational institutions maintained by the state or receiving grant out of state funds (Article 29(2)); (vii) permitting the state to make reservation for backward classes in public services in case of inadequate representations and requiring the state to consider claims of the scheduled castes and scheduled tribes in the making of appointments to public services (Articles 16 and 335); (viii) special representation in the Lok Sabha and state legislative assemblies to scheduled castes and tribes till 25 January 2000 (Articles 330, 332 and 334); (ix) setting up of tribal advisory councils and separate departments in states and appointment of a speical officer at the Centre to promote their welfare and safeguard their interests (Articles 164 and 338 and Fifth Schedule); (x)

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special provision for administration and control of scheduled and tribal areas (Article 244 and Fifth and Sixth Schedules) and (xi) prohibition of traffic in humanbeings and forced labour (Article 23).

MEASURES TO CHECK ATROCITIES AGAINST SCs/STs

With a view to effectively deal with crimes against scheduled castes and scheduled tribes and to tone up administrative machinery to tackle this vital issue, comprehensive guidelines containing precautionary, preventive, punitive and rehabilitative measures exist which states/UTs have to follow. Still these communities continue to be vulnerable and atrocities are committed against them in one form or other. Government enacted the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989. It came into force from 30 January 1990. It specifies offences which are considered as atrocities and provides for deterrent punishments for commission of the same. It also envisages preventive measures and states have to evolve schemes, among other things, for econimic and social rehabilitation of such victims. All states and UTs except Arunachal Pradesh, Mizoram and Nagaland have specialised courts for trial of offences under this Act.

MACHINERY FOR SAFEGUARDS OF SCs AND STs

By virtue of the Constitution (Sixty-fifth Amendment) Act, 1990, the 'Special Officer' post under Article 338 of the Constitution has been substituted by the National Commission for Scheduled Castes and Scheduled Tribes. It shall consist of a chairperson, vice-chairperson and five other members to be appointed by the President under his hand and seal. It shall be the duty of the Commission:- (a) to investigate and monitor all matters relating to the safeguards provided for the scheduled castes and scheduled tribes under the Constitution or under any other law; (b) to enquire into specific complaints with respect to the deprivation of rights and safeguards of the scheduled castes and tribes; (c) to participate and advise on the planning process of socio-economic development of the scheduled castes and scheduled tribes and to evaluate the progress of their development under the Union and any state; (d) to present to the President annually and at such other times as the Commission may deem fit, reports upon the working of these safeguards; (e) to make in such reports recommendations as to the measures that should be taken by the Union or any state for the effective implementation of those safeguards and other measures for the protection, welfare and socio-economic development of the scheduled castes and scheduled tribes and (f) to discharge such other functions in relation to the protection, welfare and development and advancement of the scheduled castes and scheduled tribes as the President may, subject to the provisions of any law made by Parliament, by rule specify.

The President shall cause all such reports to be laid before each House of Parliament alongwith a memorandum explaining the action taken or proposed to be taken on the recommendations relating to the Union and the reasons for the non-acceptance, if any, of any of such recommendations. Where any such report or any part thereof, relates to any matter with

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which any state government in concerned, a copy of such report shall be forwarded to the Governor of the State who shall cause it to be laid before the legislature of the State.

The Commission shall while investigating and monitoring any matter relating to safeguards provided for scheduled castes and scheduled tribes under the Constitution or any other law for the time being in force or under any order of the Government have all powers of a civil court trying a suit and in particular in respect of the following matters, namely:- (a) summoning and enforcing attendance of any person from any part of India and examining him on oath; (b) requiring the discovery and production of any document; (c) receiving evidence on affidavits; (d) requisitioning any public record or copy thereof from any court or office; (e) issuing commissions for the examination of witnesses and documents and (f) any other matter which the President may , by rule, determine.

The Union and every state government shall consult the Commission on all major policy matters affecting scheduled castes and scheduled tribes.

WELFARE AND ADVISORY AGENCIES

The Ministry of Welfare is the nodal agency for overall policy, planning and coordination of programmes of development of scheduled castes and scheduled tribes. Each Central ministry and department is the nodal agency concerning its sector.

PARLIAMENTARY COMMITTEE

Government had set up three Parliamentary Committees, first in 1966, second in 1971 and the third in 1973 to examine the implementation of the Constitutional safeguards for welfare of scheduled castes and scheduled tribes. The Committee has since been constitued as a Standing Committee of Parliament, the tenure of its members being one year.

WELFARE DEPARTMENTS IN STATES

States and UTs have separate departments to look after the welfare of scheduled castes and scheduled tribes and other backward classes. Administrative set-up varies from state to state. In Bihar, Madhya Pradesh and Orissa, separate ministers have been appointed to look after tribal welfare as prescribed in Article 164 of the Constitution. Some other states have set-up committees of members of state legislatures on the pattern of Parlimentary Committee at the Centre. All the states having scheduled areas including Tamil Nadu and West Bengal have constituted Tribal Advisory Councils as per the provision in the Fifth Schedule to the Constitution to advise on matters pertaining to welfare and advancement of scheduled tribes.

VOLUNTARY ORGANISATIONS

A number of vountary organisations also promote welfare of scheduled castes and scheduled tribes. Among them, the important organisations of all India character are: Harijan Sevak Sangh, Delhi; Indian Red Cross Society, New Delhi; Hindu Sweepers Sevak-Samaj, New Delh; Ramakrishna Mission,

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BUY ISI GOODS

THEY ARE ASSURED FOR QUALITY.

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9 Bahadurshah Zafar Marg, New Delhi-110002

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Narendrapur; Bharatiya Adimjati Sevak Sangh, New Delhi; Andhra Rashtra-Adimjati Sevak Sangh, Nellore; Ramakrishna Missions, Cherrapunji, Ranchi, Puri, Silchar, Shillong and Purulia; Bharatiya Samaj Unnati Mandali, Bhivandi in Maharashtra, Thakkar Bapa Ashram, Numakhandi, Orissa; Servants of India-Society, Pune, Maharashtra, and Social Work and Research Centre, Tilonia, Rajasthan. The Government also provides grants-in-aid to non-official voluntary organisaions working among scheduled castes and scheduled tribes. During 1992-93, 68 voluntary organizations were given grant-in-aid to the tune of Rs 2. 27 crore upto 31 December 1992.

LEGISLATION AGAINST UNTOUCHABILITY

For enlarging the scope and making penal provisions more stringent, the Untouchability (offences) Act, 1955, had been comprehensively amended by the Untouchability (offences) Amendment and Miscellaneous Provision Act, 1976, which came into force from 19 November 1976. With this amendment, the principal Act has been renamed as Protection of Civil Rights Acts 1955. The Act provides for penalties for preventing any person on the grounds of untouchability, from enjoying the rights accruing on account of abolition of untouchability. Enhanced penalties/punishments have been provided for subsequent offences.

The PCR Act, 1955, is administered by state governments. Under the provision of Section 15 A (4) of the Act, Government also places every year, before each House of Parliament, an annual report on the working of the provisions of Section 15 A of the Act.

In pursuance of the provisions made under Section 15 A (2) of the Protection of Civil Rights Act, 1955, Central assistance is given to state governments and union territory administrations. Provisions for legal aid to scheduled caste victims of the PCR Act cases have been made by 20 states. Special cells/squads have been created by 19 states for initiating and exercising supervision over prosecution for contravention of the provisions of the PCR Act. Eighteen states have set up committees at various levels to make periodical review of the problems of untouchability and cases related to it and also suggest various measures for effective implementation of the PCR Act. Matching Central assistance is provided to the state for implementation of PCR Act, Fiftyseven special courts/special mobile courts have been set up in untouchability/atrocity prone districts of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa, Rajasthan and Tamil Nadu for expeditious disposal of such cases. Necessary guidelines and instructions are issued to states from time to time for effective implementation of the provisions of the PCR Act and matching Central assistance is provided to the states for implementation of the Act.

SPECIAL CENTRAL ASSISTANCE

Special Central Assistance (SCA) to Special Component Plan of the states/union territories for scheduled caste people is linked to Government of

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India strategy for the socio-economic development of these people. The Centrally sponsored scheme is the most important programme of the Ministry of Welfare for the alleviation of poverty among scheduled caste people. The underlying objective behind SCA which provides hundred percent grant to states and union territories as an additive to their Special Component Plans is that it would be used to give an added thrust to the development programmes for scheduled caste people with reference to their occupational pattern and the need for increasing the productivity of and income from their limited assets by taking up family oriented schemes for them. The SCA is used to fill the critical gaps and vital missing inputs in family oriented income generating schemes and through non-recurring items, so as to make the schemes more meaningful and effective. This scheme was started in 1979-80 with a token provision of rupees five crore. The state governments and union territory administrations are required to disburse Special Central Assistance to various sectors and agencies including SCDCs which are involved in the implementation of economic development programmes for SCs. A provision of Rs 1,125 crore has been made for Eighth Five Year Plan.

COACHING AND ALLIED SCHEME

Under this scheme the Central assistance is provided to the state governments/union territory administrations on 50:50 basis for providing coaching to SC/ST candidates through pre-examination recruitment training centres to improve their representation in various services under the Central/state governments and public sector undertakings. In the case of universities and private institutions cent per cent Central assistance is provided for running the pre-examination training centres for SC/ST candidates who intent to appear in the various competitive examinations. There are 101 pre-examination coaching training centres. Some of the coaching centres have made considerable contribution in enabling the SC/ST candidates getting into IAS and allied services, medical, engineering and banking services. During 1992-93, a provision of Rs 1.75 crore has been made.

NATIONAL SCHEDULED CASTES AND SCHEDULED TRIBES FINANCE AND DEVELOPMENT CORPORATION

National Scheduled Castes and Scheduled Tribes Finance and Development Corporation has been set up by the Government of India under Section 25 of the Companies Act, 1956 and is functioning with effect from 8 February 1989. The objective of the corporation is to stimulate economic development of scheduled castes and scheduled tribes and also identify and fill in the critical gaps in the programmes of state-level scheduled castes development corporations and other agencies. It is also to function as an apex institution for the agencies engaged in the economic development of scheduled castes and scheduled tribes. The corporation also plays a catalystic role in developing schemes for employment generation and financing pilot programmes which can later be taken up by the state-level corporations and other agencies

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engaged in this field. So far it has sanctioned 312 schemes costing Rs 277.63 crore benefitting 1,40,472 SC/STs entrepreneurs.

GIRLS HOSTELS SCHEME FOR SCHEDULED CASTES

Under this scheme, Central assistance is provided to state governments, union territories on 50:50 matching basis for construction of hostel buildings with a view to providing hostel facilities to scheduled caste girls studying in middle and higher-level of education. Central grant is also given to voluntary organisations through concerned state governments for needful extension of existing hostel buildings. In this case, ten per cent of the total costs is to be borne by the organisation and remaining 90 per cent is to be shared between Central and state governments on 50:50 basis. More than 2,000 hostel buildings have been constructed/sanctioned so far for providing hostel accomadation to about one lakh scheduled caste girls in various states/union territories. Rs 749 lakh was sanctioned for this scheme during 1991-92 for the construction of 167 hostels for 9,101 inmates while Rs 533 lakh were provided in 1992-93.

BOYS HOSTELS FOR SCs

The Centrally sponsored scheme of boys hostel for SCs was started from the year 1989-90 on the pattern of the scheme of girls' hostels for SCs. During 1991-92, Rs 20.02 crore were released for the construction of 163 hostels buildings for 10,157 inmates.

BOOK BANK SCHEME

Book Bank Scheme is intended to provide text books required for the students belonging to SCs/STs pursuing medical and engineering degree courses from 1991-92. Agricultural, veterinary and polytechnic courses have also been included under the Scheme. A group of two students are provided one set of text books. During 1991-92, an amount of Rs 56.26 lakh was released to benefit 24, 245 SC/ST students. An allocation of rupees five crore has been made for 1992-93.

PRE-MATRIC SCHOLARSHIPS

Beginning in 1977-78, this scheme, is for educational development of children of those who are engaged in the so-called unclean occupations, *viz* scavenging of dry latrines, tanning, flaying and sweeping. The scheme as modified with effect from 1 November 1991 provides a scholarship of Rs 25 per month in class 1 to V, Rs 40 per month in class VI-VIII and Rs 50 per month in class IX-X in respect of day scholars. For hostellers scholarship of Rs 200 per month in classes III to VIII and Rs 250 per month in classes IX-X is provided. An adhoc grant of Rs 500 per annum is also provided to day scholars as well as hostellers. The income ceiling is Rs 1,500 per month. A provision of Rs 11 crore has been made under the scheme during 1992-93,

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out of which Rs 4.43 crore has been released to the concerned state governments/union territory administrations upto December 1992.

POST-MATRIC SCHOLARSHIPS FOR SC/ST STUDENTS

The scheme of post-matric scholarships to SC/ST was introduced in 1944-45 with the objective of providing financial assistance to students studying at post-matriculation stages in different schools and colleges so as to enable them to complete their education. Beginning with a mere 114 awards to scheduled caste students in 1944-45 and 89 for scheduled tribe students in 1948-49, number of awards to them had reached over 14 lakh in 1990-91. Keeping in view the rising cost of living and other factors, rates for all courses and income limits of parents/guardians awards for eligibility of scholarships have also been revised from 1 July 1989. From 1988-89, employed students with a total income of Rs 1, 500 per month are made eligible for scholarships, restricted to reimbursement of compulsory nonrefundable dues/fees etc. There is an allocation of Rs 46 crore during 1992-93, the anticipated number of scholarships for these categories is expected to increase over 16 lakh during this period.

LIBERATION AND REHABILITATION OF SCAVENGERS

A national scheme of liberation and rehabilitation of scavengers and their dependents has been formulated with these components:- (i) time bound survey for identification of scavengers and their dependents with their aptitudes for alternative trades, etc; (ii) training upto six months in identified trades at the nearest local training institutions/centres of the state government/Central Government and other semi-government and non-government organisations and (iii) rehabilitation of scavengers in trades and occupations by providing subsidy, margin money loan and bank loan. The scheme provides for funding of projects costing upto Rs 50, 000 per beneficiary with 50 per cent of the project cost as subsidy with a maximum of Rs 10, 000, 15 per cent margin money loan at four per cent rate of interest and balance loan from bank. The expenditure on subsidy and training would be met by the Central Government on cent per cent basis. A provision of Rs 60 crore has been made for 1992-93.

NATIONAL COMMISSION FOR SCs AND STs

In pursuance of the Constitution Sixtyfifth Amendment Act, 1990 a National Commission for Scheduled Castes and Scheduled Tribes replacing the erstwhile Commissioner for Scheduled Castes and Scheduled Tribes, has been constituted with effect from 12 March 1992 with wider functions and powers. The National Commission consists of chairperson, vice chairperson and five other members. The main function of the commission is to investigate and monitor all matters relating to the safeguards provided for the scheduled castes and scheduled tribes, participate and advise on the planning process of socio-economic development of the SCs and STs, discharge such other

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functions in relation to the protection, welfare, development and advancement and to make such reports/recommendations as to the measures that should be taken by the Union or the state(s) for effective implementation of the safeguards. It has been made obligatory on the Union and state governments to consult the Commission in respect of any policy measures affecting the SCs and STs.

RESEARCH AND TRAINING

Under the scheme of research and training, financial assistance is provided to universities/organisations/social science-research institutes for conducting action oriented research and evaluative studies relating to development of scheduled castes. Preference is given to such studies which are for schedule castes economic development and after practical recommendations suggest taking remedial measures. The studies are undertaken with the approval of research advisory committee of the Ministry constituted for the purpose. A number of evaluation studies in essential areas are being taken up during the current year by engaging reputed research agencies/institutions. Extending assistance to reputed institutions for organising seminars/conferences on the welfare and development of SCs is also being planned.

RESERVATION IN SERVICES

Article 335 of the Constitution provides that claims of the members of the scheduled castes and scheduled tribes shall be taken into consideration consistently with the maintenance of efficiency of administration in making of appointment in services and posts in connection with affairs of the Union or of a state. Article 16 (4) permits reservation in favour of any backward class of citizens which in the opinion of the state is not adequately represented in services under the state. In pursuance of these provisions, the Government has made reservations for scheduled castes and scheduled tribes in services under its control in proportion to their population.

For scheduled castes, reservation is allowed 15 per cent of the vacancies to which recruitment is made on an all India basis and $16\frac{2}{3}$ per cent of the vacancies to which recruitment is made on all India basis otherwise by open competition. For scheduled tribes, reservation is 7.5 per cent in both the cases. Reservation in direct recruitment to Group C and D posts, which normally attract candidates from one locality or region is fixed in proportion to the population of scheduled castes and scheduled tribes in respective states/union territories. In promotions, reservations of vacancies is allowed at 15 per cent of the vacancies for scheduled castes and 7.5 per cent for scheduled tribes on the result of competitive examinations limited to departmental candidates in Group B,C, and D and in promotion by selection in Group B,C and D and to the lowest rung of Group A in grades or services to which element of direct recruitment, if any, does not exceed 75 per cent. Reservation has also been provided for scheduled castes and scheduled tribes in promotions on the basis of seniority subject to fitness in

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Groups A,B,C and D posts in grades or services to which element of direct recruitment, if any, does not exceed 75 per cent.

In promotion by selection within Group A to posts carrying an ultimate salary of Rs 5,700 (revised scale Rs 4,500-5,700) per month or less, scheduled castes and scheduled tribes officers who are senior enough in the zone of consideration for promotion so as to be within the number of vacancies for which the select list has to be drawn up, are included in that list provided they are not considered unfit for promotion.

To facilitate their adequate representation, concessions such as: (i) relaxation of five years in upper age limit; (ii) relaxation in the standards of suitability, for selection provided they are not unfit for the posts; (iii) relaxation of qualification regarding experience in the case of direct recruitment wherever necessary; (iv) exemption from the payment of application fee; (v) inclusion of scientific and technical posts upto the lowest range of Group 'A' posts required for guiding and conducting research in the scheme of reservations, have been provided for; (vi) scheduled castes and scheduled tribe candidates who qualify for direct recruitment without applying relaxed standard are not adjusted against reserved vacancies. Simultaneously, with notification to employment exchanges or advertisements in newspapers, vacancies reserved for scheduled castes and scheduled tribes in Group C and D (Class III and IV) posts are announced over All India Radio in areas having a concentration of scheduled castes and scheduled tribes population and are notified to voluntary associations of scheduled castes and scheduled tribes enlisted for the purpose of vacancy circulars as also to Directors of SC/ST Welfare in the states and union territories. Vacancies reserved for SCs and STs filled through Union Public Service Commission otherwise than through examination are advertised on the first occasion exclusively for SCs and STs and on the second occasion along with the other vacancies. Dereservation of vacancies for direct recruitment in Group A, B, C and D has since been banned (with exception in certain rare cases of Group A). If sufficient number of suitable SC/ST candidates are not available against the share of vacancies reserved for them, the shortfall will not be filled up by general category candidates and such vacancies will be kept unfilled till SC/ST candidates become available. There is a provision of indefinite carry-forward of reservations for SCs and STs in direct recruitment. This scheme of reservation is also being followed by public sector undertakings including nationalised public sector banks. Voluntary agencies which are in receipt of substantial grant-in-aid from government, are also required, as a condition, to adopt certain specific features of the reservation scheme in their respective establishments.

To give effect to the reservation, two model rosters of 40 points each have been prescribed for direct recruitment by open competition on all-India basis and otherwise than open competition. Hundred point roster is made applicable for recruitment made on local and regional basis outside Delhi. For promotions, 40 point roster used for direct recruitment on all-

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India basis by open competition is adopted. If the vacancies in a service or cadre are too few for the purpose of applying reservation orders in direct recruitment, isolated posts which are identical in respect of qualifications, pay-scale, etc., are grouped together classification wise. Annual statements are required to be submitted by recruiting authorities for scrutiny by government. For ensuring implementation of reservation orders, liaison officers have been appointed in each department under different government ministries/departments.

State governments have also framed rules under the powers given to them by item 41 of the State List of the Seventh Schedule to the Consitution for reservation of posts for these classes and have taken steps to increase their representation in state services. Reservation in state government services, however, is under the exclusive jurisdiction of state government. Representation of scheduled castes and scheduled tribes in Central Government services as on 1 January 1991 is given in table 10.1.

TABLE 10.1 REPRESENTATION OF SCs/STs IN CENTRAL GOVERNMENT SERVICES

(As on 1 January 1991)

Group of posts	Total including	SCs No.	Percentage	STs No.	Percentage
A	62,560	5,689	9.09	1,584	2.53
B	1,02,532	12,115	11.82	2,414	2.35
C	24,02,089	3,76,015	15.65	1,19,666	4.98
D (Excluding) Sweepers)	11,67,836	2,48,101	21.24	79,589	6.82
Total	37,35,017	6,41,920	17.19	2,03,253	5.44

DEVELOPMENT OF SCHEDULED TRIBES

The all-India literacy of scheduled tribes, as per 1981 Census was 16.35 against the national average of 36.23 per cent. The gap between percentage of literacy of tribal women and general women is still wider. It is only 8.04 per cent against 24.82 per cent of general female literacy in the country. The tribal sub-plan (TSP) strategy which was evolved during the Fifth Five Year Plan is based on the twin objectives, namely : (i) protection of interests of tribals through legal and administrative support and (ii) promotion of developmental efforts through plan schemes to raise their level of living. There are now 193 Integrated Tribal Development Projects (ITDPs). During the Sixty Plan, pockets outside ITDP areas having total population of 10,000 with at least 5,000 STs were covered under TSP under Modified Area Development Approach (MADA). So far 249 pockets have been indentified in the country. In addition 77 clusters with a total population of 5,000 of which 50 per cent are STs have also been identified. At present in many states there

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is no single line administration at the ITDP level. This stands in the way of effective implementation of various schemes and projects for development of tribals. It is desirable that there should be single line administration and unity of command at the ITDP level.

TRIBAL RESEARCH INSTITUTES

Thirteen tribal research institutes (TRIs) have been set up by the states of Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, West Bengal, Uttar Pradesh and Manipur. All these institutes, except the ones in Manipur and Uttar Pradesh have museums, exhibiting tribal artifacts. These institutes are being used by states and Central governments for research, evaluation, collection of data, training, seminars/workshops, professional input in the preparation of Tribal Sub-Plans, publication of tribal literature, codification of tribal customary laws, etc. During 1992-93, an amount of Rs 105 lakh has been allocated in the budget.

TRIFED

In order to save tribals from exploitation by private traders and to offer them remunerative prices for their minor forest produce and surplus agriculture products Government has set up Tribal Cooperative Marketing Development Federation of India Ltd, (TRIFED) in August 1987 which is registered under the multi-state Co-operative Societies Act, 1984. It started functioning effectively from April 1988. TRIFED handled about 12 items in 1988-89. In almost all the items, the price offered to tribals by TRIFED was higher than the price given to them in the previous years. During 1989-90, it expanded its activities to cover a number of new items. It has been appointed as a canalising agency for export of gum keraya and other seeds of tribal area, and has also been declared as the nodal agency for collection, processing, storage and development of oilseeds of tree and forest origin. TRIFED is also acting as an agent of Food Corporation of India (FCI) for procuring wheat and paddy and as an agent of Department of Agriculture and Cooperation (DAC) for coarse grains, pulses and oilseeds. Its turnover during 1992-93 (upto November 1992) is Rs 62.09 crore.

WELFARE OF BACKWARD CLASSES

Article 15(4) of the Constitution enables the state to make special provisions for the advancement of any socially and educationally backward classes of citizens. Article 16(4) further enables the state to make reservations in services and posts in favour of any backward class of citizens which, in the opinion of the state, is not adequately represented in service. Article 340 of the Constitution provides that the President may appoint a Commission to investigate the conditions of socially and educationally backward classes and the difficulties under which they labour. The Commission may also be asked to make

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recommendations as to the steps that should be taken by the Union or any state to remove such difficulties etc. The Second Backward Classes Commission appointed on 1 January 1979 with Late Shri B.P. Mandal as Chairman, submitted its report on 31 December 1980. On 7 August 1990, Government announced its decision to implement the recommendations of the Mandal Commission in regard to 27 per cent reservation in service for socially and educationally backward classes (SEBCs).

The Government of India Office Memorandum dated 13 August 1990 providing for reservation in favour of SEBCs in civil services and posts under the Government of India was amended, vide OM dated 25 September 1991 to make provision for the following:- (i) within the 27 per cent of the vacancies in civil posts and services under the Government of India reserved for SEBCs, preference shall be given to candidates belonging to the poorer sections of the SEBCs. In case sufficient number of such candidates are not available, unfilled vacancies shall be filled by the other SEBC candidates; (ii) ten per cent of the vacancies in civil posts and services under the Government of India shall be reserved for other economically backward sections of the people who are not covered by any of the existing schemes of reservation. It was also indicated in the amending OM that the economic criteria for determining the poorer sections of the SEBCs and other economically backward sections of the people who are not covered by any of the existing schemes of reservation would be specified separately. The Constitutional validity of both the office memoranda has been challenged through several writ petitions which have been referred to a nine Judge Constitution Bench of the Supreme Court. The Bench has commenced regular hearing of the case from 28 January 1992. In the meanwhile Government is taking steps to evolve, if possible, a national consensus on the issue of determination of economic criteria.

A nine Judge Constitution Bench of the Supreme Court examined the entire gamut of issues relating to reservation under Article 16(4) and delivered its judgement on 16 November 1992. In the majority judgement, the Supreme Court has given the direction to the Union Government, state governments and union territory administrations to be complied with within the time frame stipulated in the judgement itself for constitution of a permanent body within four months from the date of the judgement *i.e.* by 15 March 1993 for (a) entertaining, examining and recommending requests for inclusion and (b) complaints of over-inclusion and under inclusion in the lists of OBCs.

CREAMY LAYER

Government of India was to specify within four months *i.e.* by 15 March 1993, socio-economic criteria to exclude socially advanced persons/sections from OBCs. This direction shall not, however, apply to states where the reservations in favour of backward classes are already in operation. They can continue to operate them. Such states shall, however, evolve the said criteria

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within six months from the date of judgement and apply the same to exclude the socially advanced persons/sections from designated other backward classes. Action for compliance with the above directions of the Supreme Court has been initiated. Ministry of Welfare has also forwarded a copy of the majority judgement to each of the state governments and union territory administrations advising them to take appropriate action for compliance with the directions of the Supreme Court.

The office memorandum dated 25 September 1991 provided that within 27 per cent of the vacancies in civil posts and services reserved for SEBCs, preference shall be given to candidates belonging to the poorer sections of the SEBCs. While, the Supreme Court has observed that the distinction between poorer sections and others among the backward classes cannot be based exclusively on economic criteria, it has held that there is no constitutional bar to classification of the backward classes into 'more backward and backward classes' for the purposes of Article 16(4) of the Constitution. Thus, the Court has upheld the basic principle contained in the office memorandum that within the SEBCs, preference could be given to more deserving over the others.

The Court has declared that the reservations of 10 per cent of the posts in favour of other economically backward sections of the people, who are not covered by any of the existing schemes of reservation, is constitutionally invalid.

NATIONAL BACKWARD CLASSES FINANCE AND DEVELOPMENT CORPORATION

Government has set up a National Backward Classes Finance and Development Corporation (NBCFDC) with the objective of providing the socially and educationally backward classes (a) an additional channel of finance for economically and financially viable schemes and projects and (b) upgrading their technological and entrepreneurial skills. During 1991-92, a sum of Rs 25 crore was released to the Corporation towards the share capital. A further provision of Rs 25 crore has been made in the 1992-93 budget. The Corporation is at present engaged in formulating programmes for the development and welfare of socially and educationally backward classes. Detailed guidelines in this regard have been sent by the Corporation to the state level backward class corporations and state governments for preparing project proposals for financial assistance by the Corporation.

WELFARE OF MINORITIES

To evaluate the working of various safeguards in the Constitution for the protection of religious minorities and to make recommendations to ensure effective implementation and enforcement of all the safeguards and the laws, a Minorities Commission was set up in January 1978. The Commission reviews the implementation of policies of the Union and the state governments towards monorities. It has a Chairman and other members belonging to different minority communities. The Commission submits an annual

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report to the government. The National Commission for Minorities Act, 1992 has been passed by the Parliament. Under this Act, the National Commission for Minorities will be constituted in due course which would replace the existing commission.

The Commissioner for Linguistic Minorities appointed under Article 350(B) of the Constitution investigates all matters relating to safeguards provided for linguistic minorities. He looks into representations and complaints received from various associations and individuals belonging to linguistic minorities for redressal of their grievances. The 15-Point Programme for the welfare of minorities aims at fuller participation of minorities in all aspects of national life. It is implemented through state governments, union territories, administrations and Central ministries/departments. Besides, listing broadly of communal harmony, the programme lays special emphasis on technical educational needs of minorities. The Ministry of Welfare is the nodal agency monitoring the 15-Point programme.

WAKFS

Wakfs are permanent dedication of movable or immovable properties for purposes recognised by the Muslim Law as religious, pious or charitable. Better management of these institutions and fuller realisation of their objectives contribute to development and progress of the society.

THE WAKF ACT, 1954

Administration of Central legislation for Wakfs *i.e.*, the Wakf Act, 1954 is the responsiblity of Ministry of Welfare. This Act, however does not extend to the states of Jammu and Kashmir, Uttar Pradesh and West Bengal who have their own Wakf Laws. Parts of Gujarat and Maharashtra are also not governed by the Central Act. The Wakf Act, 1954 envisages decentralised set-up. While *Mutawali* (Manager) of each individual wakf retains his autonomy in the discharge of his responsibilities, general superintendence of all wakfs in a state vests in the Wakf Board, set up by each state government, which has to ensure that the wakfs are properly maintained and administerted and that their income is duly applied to objective for which such wakfs were created. The Board has its own office and staff and its own funds composed of a statutory contribution realised from different wakfs. Overall supervision of the Wakf Board vests in the concerned state government, which apart from appointing members of the Board and its secretary, also receives the annual budget of the Board and appoints auditors for auditing its accounts. It also has powers to issue directions to the Board and in certain cases, supersede it. Central Government has powers to issue directions to a Board on matters of policy. It is advised on matters relating to administration of wakfs by a statutory body known as Central Wakf Council which is headed by the Union Minister incharge of the subject of Wakf.

In order to further strengthen administration of wakfs, an amending legislation known as the Wakf (Amendment) Act, 1984 has been passed.

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Owing to strong objections to provisions of the Act from certain quarters of Muslim community only two provisions of the Act could be enforced. With a view to augmenting financial resources of individual wakfs/wakf boards, Central Government gives an annual grant-in-aid to the Central Wakf Council for extending loan assistance for the development of urban wakf properties. Central Government also assists Wakf Boards through state governments in solving problems of common concern. In order to give a boost to the educational activities of the Council the 'Maulana Azad Education Foundation' has been established as a registered society under the Societies Registration Act on 6 July 1989. The Foundation has been established with the specific purpose of removing educational backwardness among the Muslim minorities as also to create awareness about various national programmes.

DURGAH KHWAJA SAHEB

The internatonally famous wakf, namely Durgah of Hazrat Khwaja Moinuddin Chisti at Ajmer is governed by the Durgah Khwaja Saheb Act, 1955. This endownment is managed by a Centrally appointed committee known as Durgah committee which is assisted by an officer known as *Nazim*. The committee has its own funds and among other things, looks after the welfare of devotees visiting the Durgah. It runs two dispensaries and has constructed a multi-storeyed guest-house complex to provide accommodation at economical rates to pilgrims.

PUNJAB WAKF BOARD

Ever since the re-organisation of the erstwhile composite state of Punjab in 1966, Punjab Wakf Board continues to be an inter-state body corporate functioning in the areas which now comprise the re-organised states of Punjab, Haryana and Himachal Pradesh, and Union Territory of Chandigarh. Thereafter, from 1966 onwards powers of state governments under the Wakf Act, 1954 from time to time have been assumed and exercised by the Central Government. Punjab Wakf Board had been superseded by the Central Government in November 1989 and since then it continues to be administered through an administrator appointed by the Central Government. The Board's income has increased during the last few years. With increase in its income, the Board has expanded its welfare activities. Apart from payment of salaries to *Imams* and *Muazzins*, caretakers etc., the Board has been assisting widows/destitutes and also gives scholarship/financial assistance to needy students.

MAULANA AZAD EDUCATION FOUNDATION

With a view to give a boost to educational activities of the Central Wakf Council, the Maulana Azad Education Foundation has been established by the Central Wakf Council as a voluntary non-political, non-profit making social service organisation to promote education amongst minorities and

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backward classes in particular and others in general. The Foundation was registered as a society under the Societies Registration Act on 6 July 1989. The Government of India has decided to provide grants-in-aid to the Maulana Azad Education Foundation to achieve its aims and objects. A sum of rupees five crore have been allocated for this purpose for 1992-93.

WOMEN AND CHILD DEVELOPMENT

Department of Women and Child Development in the Ministry of Human Resource Development is responsible for formulating policies and programmes for women and children besides coordinating, guiding and promoting the activities of both governmental and non-governmental organisations working for the welfare and development of women and children. The major thrust of the programmes of the department is towards ensuring the well-being of children and women, particularly those of the weaker sections of society and for raising the status of women and bringing them into the mainstream of development. The Department is comprised of the Nutrition and Child Development Bureau and the Women's Development Bureau. While the Nutrition and Child Development Bureau is responsible for the overall development of children, the Women's Bureau works to improve the lot of women. The National Institute of Public Cooperation and Child Development (NIPCCD), a society registered under the Societies Registration Act 1860, functions under the department. Its activities include research and evaluation studies, organisation and conduct of training programmes for programme functionaries, organisation of workshops/seminars and conferences in the area of women and child development. NIPCCD is also responsible for the training of functionaries of the department's most significant programme, the Integrated Child Development Service (ICDS). The Central Social Welfare Board (CSWB) which is a registered body under the Indian Companies Act of 1956, works as an apex body to promote voluntary action in the field of women and child development by extending financial support to various non-governmental organisations in the country. It reaches even to the grass root level organisations through its state boards.

CHILD DEVELOPMENT

INTEGRATED CHILD DEVELOPMENT SERVICES

Following the adoption of the National Policy for Children in 1974, the scheme of Integrated Child Development Services (ICDS) was initiated in 1975 as a Centrally sponsored scheme. The scheme provides a package of services namely: (i) supplementary nutrition; (ii) immunization; (iii) health check-up; (iv) health referral; (v) pre-school non-formal education and (vi) health and nutrition education for mothers. The target group consists of children in the age group 0-6 years and preganant and lactating mothers.

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The number of projects (Centrally sponsored) sanctioned as on 31 December 1992 stood at 2, 571 and 194 state sector projects (rural/tribal blocks and urban blocks). Over 182 lakh (children and mothers) are receiving supplementary nutrition, while about nine lakh children are receiving pre-school stimulation under the scheme. The integrated package of services as mentioned above is delivered through the focal points of *Anganwadis* (one anganwadi in one village generally) in which sanctioned number is over 3.9 lakh. Several evaluation studies have brought out that ICDS is currently fulfilling a major national need and there has been a decline in infant mortality rates and birth rates, better health and immunisation coverage and larger acceptance of family planning in ICDS areas.

In 1992-93, the financial provision for ICDS was Rs 356.74 crore. This account for all components on projects expenditure except the nutritional component, which is funded by the state governments. For nutrition component, apart from state government's contribution, food aid is also available from Cooperative for American Relief Everywhere (CARE), World Food Programme (WFP) and through the erstwhile Centrally sponsored Wheat Based Nutrition Programme. A begining was made to institutionalise a special set of interventions for adolescent girls through ICDS infrastructure. These interventions for adolescent girls were sanctioned in 507 ICDS projects. The services provided include health and nurtition cover, functional literacy and upgradation and improvement of home-base skills.

WORLD BANK ASSISTED ICDS PROJECTS

The Centrally-sponsored, World Bank assisted ICDS projects sanctioned during 1990-91 for predominantly tribal areas of Andhra Pradesh and Orissa, continued its operation during 1992-93. The project provides additional inputs for women's income generation. Women's Integrated Learning of Life (WILL), services for adolescent girls, strengthening of health components, experimentation with nutritional rehabilitation centres and therapeutic food, construction of anganwadi buildings and godowns-cum-CDPO's offices on a selective basis and enhanced inputs in the spheres of communications, training, project management, equipment, monitoring, evaluation, etc. Another World Bank assisted ICDS-II project, for certain areas of Bihar and Madhya Pradesh is being launched.

TRAINING OF ICDS FUNCTIONARIES

The effective delivery of the package of services envisaged under the significant programme of ICDS depends on proper training and orientation of the functionaries at all levels. Accordingly, a comprehensive programme for the training of ICDS functionaries has been undertaken concurrently by this department. The National Institute of Public Cooperation and Child Development (NIPCCD), other selected training institutions and voluntary organisations recognised by the state governments have been involved in the

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training of ICDS functionaries namely, the anganwadi workers and helpers (the grass-root level functionaries of the ICDS scheme) supervisors and the child development project officers (CDPOs). There are 290 anganwadi workers training centres (AWTCs) for imparting training (job course as well as refresher course) to anganwadi workers/helpers and 20 middle level training centres (MLTCs) for imparting training (job course as well as refresher course) to supervisors. The job course training and refresher training to the CDPOs is given by NIPCCD and its three regional centres located at Bangalore, Lucknow and Guwahati.

BALSEVIKA TRAINING PROGRAMME

With the rapid expansion of welfare schemes in the country such as the Integrated Child Development Services Scheme the demand for the grass-root level functionaries is on the rise. The Balsevika Training Programme was started in 1961-62 to meet the requirement of the trained personnel for the institutions implementing welfare programmes for the pre-school children. The Programme is being run by the Indian Council for Child Welfare (ICCW) with cent per cent grant assistance. There are at present 25 *Balsevika* training institutes (BSTIs) in the country, each conducts this training course of 11 months duration for 50 trainees.

The syllabus of the Balsevika training programme covers the fields of nutrition, health, education and pre-school education and social work. Since the inception of the Balsevika Training Programme, a total number of 30, 559 Balsevikas have been trained till March 1992.

CRECHES/DAY-CENTRES FOR CHILDREN

Under the scheme, the services available to the children include sleeping and day-care facilities, supplementary nutrition, immunization, medicines, entertainment and weekly medical check-ups. It is being implemented by the Central Social Welfare Board through voluntary social welfare organisations and by Indian Council for Child Welfare and *Bhartiya Adimjati Sevak Sangh* all over the country. During 1992-93, assistance was continued to be provided to support the existing 12, 470 creche units.

EARLY CHILDHOOD EDUCATION (ECE)

ECE has been designed to improve the children's communication (language) and cognitive (social, emotional, intellectual and personality development) skills as preparation for entry into primary schools. The programme is in implementation in the nine educationally backward states of Andhra Pradesh, Assam, Bihar, Jammu and Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal and at present 4, 365 ECE centres are functioning in these states with over 1.50 lakh children beneficiaries.

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SPECIAL NUTRITION PROGRAMME (SNP)

This programme was launched in 1970-71 for children below six years of age and for expectant and nursing mothers. Under the programme, supplementary feeding is given for 300 days a year to the beneficiaries. Every child receives 300 calories and 8-10 gm of protein and every expectant and nursing mother 500 calories and 20-25 gm of protein per day. The programme is in the state sector.

WHEAT BASED NUTRITION PROGRAMME (WBNP)

The Wheat Based Nutrition Programme is being implemented in 16 states and three union territories to cover about 31 lakh beneficiaries in ICDS areas. The programme has been transferred to the state sector with effect from 1 April 1992.

INFANT MILK SUBSTITUTES, FEEDING BOTTLES AND INFANT FOODS ACT, 1992

The Infant Milk Substitutes Bill, 1992 regulating the production and supply of breast milk substitutes, for the promotion of breast feeding was passed recently in Parliament.

NATIONAL PLAN OF ACTION FOR CHILDREN

India reaffirmed its commitment to the cause of children, keeping in with the pledges made in the World Summit for Children by drawing up for implementation a decodal National Plan of Action for Children. The Plan identifies quantifiable goals to be achieved by 2000 AD in the spheres of health, nutrition, education and related areas.

BALWADI NUTRITION PROGRAMME

Balwadi Nutrition Programme (BNP) is being implemented since 1970-71 through the Central Social Welfare Board and four national level voluntary organisations. About 5, 600 *Balwadis* are being run by these five agencies to implement the programme. About 2.29 lakh children in the age group of 3-5 years are covered under this programme. Apart from nutritional supplementation, the balwadis look after the social and emotional development of children.

NATIONAL AWARDS FOR CHILD WELFARE

National Awards for Child Welfare were instituted in the year 1979, the International Year of the Child, as state's recognition for the voluntary action for the cause of child welfare. Five awards are given to institutions and three awards to individuals annually for the best work done in the field of child welfare. The award carries a cash prize of rupees two lakh and a citation for the awardee institution and Rs 30, 000 and a citation for the individual awardee.

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UNITED NATION'S INTERNATIONAL CHILDREN EMERGENCY FUND (UNICEF)

Department of Women and Child Development is the nodal department for UNICEF assistance in the country. UNICEF assistance has been available for the programmes which has focus on children. The programme areas, included the integrated child development services, urban basic services, women development, health, nutrition, education, water supply and sanitation.

WOMEN DEVELOPMENT

The Constitution of India guarantees equal rights and opportunities for both men and women. Towards this, efforts are being made through development planning to raise the status of women besides mainstreaming them into the process of national development on par with men. The programmes for the development of women include employment and income generation programmes, welfare and support services and programmes to create awareness generation, etc.

HOSTELS FOR WORKING WOMEN

The scheme seeks to provide cheap and safe accommodation for working women belonging to low income group. The scheme was modified in 1980 to provide assistance for day-care centres for children attached to working women hostels. An outlay of rupees six crore has been made for 1992-93 to sanction 80 additional hostels to provide accommodation to 3,400 working women. Since inception of the scheme 640 hostels with an intake capacity of 41,813 women with day care facilities to 5,726 children in 221 hostels have been established.

EMPLOYMENT AND INCOME GENERATING TRAINING PRODUCTION UNITS

The NORAD (Norwegian Agency for International Development) assisted programme started during 1982-83 to train women belonging to weaker sections of the society and to provide them employment on a sustained basis. The programme is implemented through public sector undertakings/corporations/autonomous bodies/voluntary organisations. Under this, training is imparted to women in selected non-traditional trades such as electronics, watch manufacturing/ assembly, printing and binding, handlooms, weaving and spinning, garment making, etc. A budget provision of Rs 4 crore was made for the year 1992-93. So far, about 300 projects have been sanctioned to benefit over 26,000 women.

CONDENSED COURSES OF EDUCATION AND VOCATIONAL TRAINING FOR WOMEN

This programme is implemented by the Central Social Welfare Board (CSWB) through voluntary organisations. Under this programme, women in

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the age group 18-30 years who have had some schooling, are coached for 2-3 years to enable them to appear at different levels of examinations like middle school/secondary school/matriculation. The component of vocational training was added to this programme during 1975. During 1992-93, a provision of Rs 8 crore was made for conducting 1,200 courses. During the year 1992-93, 893 courses to cover 22,375 women beneficiaries have been sanctioned till 31 January 1993.

SOCIO-ECONOMIC PROGRAMME

Under this programme, the Central Social Welfare Board gives financial assistance to voluntary organisations for undertaking wide variety of income-generating activities and provide opportunities for work and wages to needy women belonging to the category of poor and the downtrodden, widows, destitutes, disabled, etc., particularly from economically backward and under-developed areas. Small industrial units,handlooms and handicrafts units, dairy units and other animal husbandary programmes like piggery, goat rearing, ship breeding, poultry units and also self employment units are set up under this programme. A new thrust has been given identifying new sector of income-generating projects. Under this scheme, 3,642 women have been benefitted till 31 January 1993 during the year 1992-93.

SUPPORT TO TRAINING-CUM-EMPLOYMENT PROGRAMME

This programme of Support to Training-cum-Employment for Women (STEP)living below poverty line, was launched in 1987 to strengthen and improve the skills and employment opportunties in traditional sectors where majority of women are already working. The sectors include agriculture, animal husbandary, dairying, fisheries, handlooms, handicraft, cottage and village industries and sericulture. The focus is mainly on marginalised and assetless women from households of wage labourers, unpaid female workers, marginal labourers, female-headed households and other dispossessed groups in order to integrate them into the mainstream of development. Since the inception of the progamme, about 81,000 women have been benefitted.

WOMEN DEVELOPMENT CORPORATIONS

The Scheme for setting up of Women Development Corporations (WDCs) was formulated in 1986-87. These corporations are expected to play a catalytic role in identifying the women entrepreneurs; provide technical consultancy services; facilitate availability of credit; promote marketing of products; promote and strengthen women's cooperatives; arrange technical facilities, etc. So far, the corporations have been set up in the states of Andhra Pradesh, Goa, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal and in the Union Territory of Chandigarh. The scheme has been transferred to the state sector during 1992-93.

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SHORT STAY HOMES FOR WOMEN AND GIRLS

Government gives grant-in-aid to voluntary organisations/institutes to assist/run short stay homes for women and girls. The scheme was started in 1969 with the objective of providing temporary shelter and rehabilitation to those women and girls who are in social and moral danger due to family problems, mental strain, social ostracism, exploitation or other causes. Each home at a time accommodates 20-30 inmates.There are 201 short stay homes sanctioned in different states/union territories.

AWARENESS GENERATION PROJECTS FOR RURAL AND POOR WOMEN

This programme is implemented by the Central Social Welfare Board through voluntary organisations. Under it, awareness generation camps are conducted for the rural and poor women. The number of participants in each camp is 25 women .Since the inception of the programme, over 4,000 projects have been sanctioned benefitting about one lakh women.

EDUCATION WORK FOR PREVENTION OF ATROCITIES AGAINST WOMEN

Assistance is given under the programme to the organisations for education work for the prevention of atrocities against women through propaganda/publicity and research work of related issues.

INFORMATION AND MASS EDUCATION

Public awareness about social problems and consequent efforts to bring the desired behavioural changes are envisaged to be achieved through the use of mass-media including electronic, print, traditional media and outdoor publicity, utilising the outlets of Information and Broadcasting Ministry which include AIR, Doordarshan, Field Publicity, DAVP, Song and Drama Division, etc. Voluntary organisations and related institutions are also involved in creating public awareness about social evils and public perceptions towards child care, health, nutrition as well as women's development. Documentary films, TV coverage with a focus on the girl child, women's issues and social problems like dowry, etc., are also being made to sensitize the public and project positive image of the girl child.

REHABILITATION OF WOMEN IN DISTRESS

The major objective of the scheme is to rehabilitate destitute women and their dependent children through vocational training and residential care and make them economically independent. The expenditure is shared among the Central Government, the state governments and the voluntary agencies in ratio of 45:45:10. A provision of Rs 15 lakh has been made during the year 1992-93. This Centrally sponsored scheme has been transferred from 1 April 1992 to the state sector.

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NATIONAL COMMISSION FOR WOMEN (NCW)

A National Commission for Women was set up on 31 January 1992 to monitor the matters relating to constitutional and legal safeguards provided for women to monitor the implementation of legislations made to protect the rights of women, review the existing legislations concerning women and suggest amendments, wherever necessary and look into the complaints and take *suo-moto* notice of cases involving deprivation of the rights of women. The Commission has since started its activities.

LEGISLATIONS

Government has introduced some special legislations for the protection of interest of women. These include Equal Remuneration Act, Commission of Sati (Prevention) Act, Criminal Laws and Indian Evidence Act, Maternity Benefit Act, Immoral Traffic (Prevention) Act, Dowry Prohibition Act,etc. A detailed review of the Acts, namely, the Immoral Traffic (Prevention) Act, 1956 (as amended upto 1986), Dowry Prohibition Act, 1961 (as amended upto 1986), Indecent Representation of Women (Prohibition) Act, 1986 and the Commission of Sati (Prevention) Act, 1987 has been undertaken.

NATIONAL PLAN OF ACTION FOR THE SAARC DECADE OF THE GIRL CHILD (1991-2000 A.D.)

In fulfilment of the commitment made by the Heads of the Governments/States/SAARC countries at Male in 1990, the Department had prepared a National Plan of Action for the SAARC Decade of the Girl Child. This Plan of Action draws its inspiration from both the National Policy for Children (1974) and the National Plan of Action for Children (1992). The girl child, being an integral part of the target group of children, she will derive the fullest possible benefit from the general plan of action. However, her gender-specific needs and requirements will be taken care of by this Plan of Action.

WELFARE OF THE DISABLED

According to the estimates of the World Health Organisation (WHO), 10 per cent of the population in the world has one or more physical or mental disabilities. In a sample survey conducted in 1981 by the National Sample Survey Organisation of India, the total number of disabled persons in the country may be about 120 lakh who suffer from locomotor, speech, hearing and visual disabilities. No precise estimate in respect of mental retardation is available. However, studies undertaken by research organisations have indicated the extent of mentally handicapped persons between 2 to 2.5 per cent of the population. The Ministry of Welfare continued to implement special programmes for the early detection, education, training and rehabilitation of various categories of disabled persons.

REHABILITATION COUNCIL

Rehabilitation Council, an apex body to enforce uniform standards in training of professionals in the field of rehabilitation of the handicapped in the country

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has been set up as an autonomous body during 1992-93. The council prescribes minimum standards of education and training of professionals; recognises certain institutions for conducting training programmes leading to degrees or diplomas. The council also recognises foreign degrees or diplomas or certificates on reciprocal basis and maintains Central Rehabilitation Register of persons who are allowed to practise or seek employment in rehabilitation services for the handicapped.

Rehabilitation Council has finalised the standardisation of 43 courses. The Council is also organising the joint entrance examination on all India basis for the course in physiotherapy, occupational therapy, prosthetic and orthotic engineering and diploma in mental retardation in respect of institutions under the control of the Minstry of Welfare. The Council has been converted into a statutory body through the Act of Parliament. The Act has received the assent of the President of India on 1 September 1992.

SOCIAL DEFENCE

PROHIBITION AND DRUG ABUSE

In keeping with its nodal responsibility for drug abuse prevention, the Ministry of Welfare has been sponsoring a variety of research studies on the subject through major academic and research institutions. Recently, a nationwide project covering 33 cities and drug prone areas was commissioned by the Ministry to ascertain the nature and extent of the problem, to delineate the major socio-economic factors contributing to it, to identify areas and population groups affected or susceptible to it, and to assess adequacy or otherwise of the available services. Though the studies were based on the perceptions of informed persons and affected individuals, the findings thereof provided some important clues for a better understanding of the problem and of its ill effects on the individual, the family and the society at large.

Article 47 of the Constitution enjoins that the state shall endeavour to bring about prohibition of consumption except for medicinal purposes, of intoxicating drinks and drugs which are injurious to health. Responsibility for fulfilling the Constitutional obligation in regard to prohibition rests largely with the state governments. The Centre has, however been continuously making efforts to educate people about ill effects of drinking through mass media and also encouraging voluntary organisations through grants for educative publicity.

During 1992-93, there has been spectacular expansion of drug couselling and de-addiction services to cover more beneficiaries. As against 111 couselling centres during the last year, the number has increased to 145. Similarly, as against 49 de-addiction centres last year, the number has increased to 84. The number of after-care centres has increased to 14 from 10 as compared to previous year. Inspite of financial constrains the number of all the services in the field of de-addiction has been expanded.

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STREET CHILDREN

The term 'street children' is broad enough to include children not only of the street with no familial support or with no families but also those who have their families but are found on the street under various kinds of compulsions. Many of the street children have to struggle hard for their survival, mostly by earning on their own through meagre sources such as rag picking, vending newspapers, shoe shining, hawking, auto-washing, etc. While the boys among them are quite visible, the street girls also exist.

It is for the first time after independence that the Ministry of Welfare has launched a new scheme for the welfare of the street children. The scheme provides integrated community based non-institutional basic services for the care, protection and developments of the children who live on the streets or pavements with or without their family. An amount of rupees eight crore has been provided for the scheme in the Eighth Five Year Plan. The scheme is to be implemented through voluntary organisations by providing grant-in-aid and is to cover initially 24,000 beneficiaries in 11 most populous cities. The scheme will be operated through 40 NGOs through a network of about 240 centres.

WELFARE OF THE AGED

The problems of the aged are acquiring larger dimensions and complexity due to the fact that the number of aged is on increase. According to 1981 census, the population of the aged persons (60+) was 4.45 crore. It is estimated to have increased to 5.48 crore in 1991. The proportion of the old people to the population has increased from 6.2 per cent in 1981 to 6.5 per cent in 1991. This may go upto 7.6 per cent by 2000 A.D.

Article 41 of the Constitution enjoins on the State to make effective provision within the limits of its economic capacity and development for public assistance in case of old age. Government is assisting voluntary organisations to establish old age homes and day care centres in providing diverse services to the aged. It is also making all efforts to provide and enlarge old age pension scheme implemented by different states and union territory administrations.

For the first time, a new scheme under Central sector has been launched by the Ministry for the welfare of the elderly people. The scheme is to be implemented through voluntary organisations and provides services like foster-care, day-care, old age homes, mobile medicare, etc. An amount of Rs 10 crore has been provided under the scheme during the current Five Year Plan. The response to the scheme all over India continues to be overwhelming.

DEPARTMENT OF PENSION AND PENSIONERS' WELFARE

The Department of Pension and Pensioners' Welfare was set up in March 1985. Its responsibilities include formulation of policy and co-ordination of matters relating to the retirement benefits of all Central Government employees. The department has also provided an integrated approach to matters relating to post-retirement benefits.

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A revised integrated pension structure was introduced on 1 January 1986 based on the recommendations of the Fourth Central Pay Commission. Pension for full qualifying service of 33 years is now uniformly calculated at 50 per cent of average emoluments drawn during the ten months preceding retirement. Benefit of the revised formula has also been extended to pre 1 January 1986 retirees and their pensions have also been improved upon. Minimum pension/family pension is now, Rs 375 per month. Pension structure for pre 1 January 1986 retirees as well as those retiring on or after 1 January 1986 is now linked to average Consumer Price Index (CPI) 608 (1960 as base) and a system for grant of relief against inflation beyond CPI 608 has been introduced. Provisions relating to retirement gratuity/death gratuity and family pension have also been improved upon. Procedure for sanction and disbursement of pension has been streamlined. Central Pension Accounting Officer (CPAO) has been set up from 1 January 1990. Action commences 24 to 30 months in advance of the date of retirement to ensure that retirement benefits are paid from the very date of retirement.

The revised procedure eliminates a number of intermediate agencies. The format of the pension payment order has been revised to indicate full particulars of service which go into the calculation of retirement benefits. The pension payment order also includes details regarding family pension; based on these details, payment of family pension is commenced by disbursing officers without requiring fresh sanctions from administrative authorities.

The Department of Pension and Pensioners' Welfare also plays a useful role in the redressal of pensioners' grievances. Pensioners' grievances received in this department are taken up with the respective ministries for appropriate remedial action. Qualified officers in this department also attend to pensioners' grievances in person; pensioners can meet the concerned officer on any working day between 4 PM and 5 PM without prior appointment. Pension *Adalats* are also held by the Ministry of Railways, Department of Posts, Department of Telecommunication and Ministry of Defence at places where there is a large concentration of Central Government pensioners in order to sort out pensioners' grievances on the spot.

RESEARCH AND PUBLICATION

On research side, about 15 new studies have been sponsored to evaluate on going programmes of the Ministry in the field of handicapped, drug abuse, ageing, etc. About five conferences/workshops have been funded on various subjects dealt by the ministry. Translation of Encyclopaedia of Social Work in Hindi is in progress and likely to be completed shortly. In addition, six new publications are likely to be brought out by the Planning, Research, Evaluation and Monitoring Division (PREM) of the ministry, namely: Social Work Education Facilities in India, Summary of Research Reports, compilation of Social Welfare Statistics, Directory of Voluntary Organisations, A pocket book on Social Welfare and Development, etc.

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11 Mass Communication

A VITAL role is played by Mass Communication in creating people's awareness about policies and programmes of development. It helps in motivating them to be active partners in nation-building endeavour. A skillful synthesis between traditional and folk forms of communication on one hand and modern audio-visual media including satellite communication on the other, is being attempted. The Ministry of Information and Broadcasting being the nodal organisation in this field, has a comprehensive set-up of its mass media units with their regional and branch offices as well as mobile units.

ELECTRONIC MEDIA

AKASHVANI

Broadcasting started in India in 1927 with two privately owned transmitters at Bombay and Calcutta. The Government took over the transmitters in 1930 and started operating them under the name of Indian Broadcasting Service. It was changed to All India Radio (AIR) in 1936 and it also came to be known as Akashwani since 1957. AIR is serving as an effective medium to inform and educate people besides providing wholesome entertainment.

BROADCASTING NETWORK

At the time of Independence, there were six radio stations. All India Radio's network now comprises 151 stations excluding the national channel, the integrated North-East Service and the External Service. Of these 28 stations have a separate channel for commercial broadcasting, apart from the primary channel broadcast in the regional languages of the area. There are in addition three commercial broadcasting centres at Chandigarh, Kanpur and Vadodra. AIR covers 96.2 per cent of the population.

MUSIC

AIR has contributed greatly to bring about an awareness and appreciation of Indian music. About 38 per cent of the total broadcast of AIR now constitutes music programmes. These include classical and light classical music, light devotional, folk, tribal, film as well as classical and light western music. Besides the regular music programmes. All India Radio started in 1950s some of the major network programmes, namely the national programme of music and the *Akashwani Sangeet Sammelan*. Among the significant achievements of AIR's

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national programmes and Sangeet Sammelan concerts is the integration of *Hindustani* and *Carnatic* styles— the major styles of music. Eminent artists as well as promising younger artists in both the styles are presented in these programmes. During Akashwani Sangeet Sammelan, Hindustani music concerts are arranged in the southern region and *Carnatic* music concerts are also arranged in the northern region. Later the national programmes of regional and light music and the zonal hook-up concerts by young artists were added. Through these programmes, AIR brings to its listeners the best of musical talent available in the country on its network.

AIR also broadcasts music lessons and music appreciation programmes regularly from various AIR stations. New talent is continuously scouted through regular music auditions as well as annual music competition. Young and promising artists feature in public concerts through a system of chain booking which enables artists of one region to get exposure in other regions of the country.

AIR has set up a Central Music Audition Board and a number of local audition committees for inducting music talents. It also conducts annual music competition for scouting talents. To develop mass singing as a means of achieving national integration, 17 stations have instituted choral groups. As an extension of this programme, promotion of community singing as a movement has now been taken up in a big way. Selected songs with simple text and tunes are being propagated through broadcasts as well as training of teachers and students with the help of National Council of Educational Research and Training and educational institutions. AIR also releases selections from its archives which has a valuable collection of recording of eminent artists—past and present.

Another important milestone in AIR's music programmes is the national orchestra known as AIR *Vadya Vrinda* in Delhi and Madras. These orchestral units comprising both Hindustani and Carnatic musicians have done remarkable experiments in orchestration of Indian music under eminent conductors and have wide repertoire of the variety of compositions based on traditional *ragas* and folk melodies as well as thematic composition. Folk music collections centres have been set up at 20 places to systematically collect and preserve this heritage.

VIVIDH BHARATI AND COMMERCIAL SERVICE

Popular entertainment programme, *Vividh Bharati* is broadcast from 31 centres besides three short-wave transmitters at Bombay, Madras and Delhi. The total duration of the programme is 12 hours and 45 minutes on weekdays and 13 hours and 15 minutes on Sundays and holidays. Film music, humorous skits, short plays and features are presented in these programmes. Commercial broadcasting which was introduced in November 1967 from Bombay-Nagpur-Pune on an experimental basis is now carried by 30 centres. Advertisements are accepted in any language on tape-recorded spots of 7, 10, 15, 20 and 30 seconds duration. Sponsored programmes over the AIR

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hook up began in May 1970. In April 1982 commercials were introduced on a limited experimental scale on the primary channel. This was extended from January 1985 to other categories of programmes from 55 AIR stations. At present, commercials are broadcast on 60 stations. Spots/sponsorships are being accepted in rural programmes, women's programmes, film/light music (Indian and western) including listeners' choice, plays and other popular programmes.

PLAYS AND FEATURES

Radio drama is a very important and popular format of AIR programmes. About 80 stations of AIR broadcast plays in various languages. National programme of plays is broadcast every fourth Thursday of the month and is relayed by all Hindi stations. The scripts are selected from outstanding plays received from various stations in their regional languages and then translated into Hindi. The non-Hindi stations broadcast the regional versions of the master script simultaneously. Every month, Central Drama Unit in the Directorate produces one model play of 30 minutes, which is circulated through a chain to more than 30 stations. Master copy in Hindi is sent to non-Hindi stations also for possible use at their end after translating in their regional languages.

Most of the stations originating programmes, broadcast 2—7 plays and skits every week in the language and dialects of the region. Some stations broadcast family drama serials conveying messages of family welfare, national integration, small savings, etc. Every year a programme of humour, "*Hasya Tarang*" is presented in which drama groups from various stations participate.

To discover fresh talent and to encourage talented playwrights to write specially for radio, All India Competition of Radio Playwrights was introduced in 1987 in 19 prominent languages of India. The response received so far has been immense and beyond expectation. Prizes of Rs 10,000, Rs 5,000 and Rs 3,000 are awarded in each language for the best first, second and third entries. Besides additional prizes of Rs 10,000 are awarded to the plays considered best in the humorous category in each language.

NEWS AND CURRENT AFFAIRS

The News Services Division of All India Radio is one of the premier broadcasting organisations in the world both in its stature and the sheer number of news bulletins and news-based programmes broadcast daily. With an illustrious history of over 55 years of news broadcasting, the NSD has a modest beginning in 1936 when only a few news bulletins were broadcast. The Central News Organisation of All India Radio came into being on 1 August 1937. By 1939-40 AIR was broadcasting 27 bulletins for a total duration of over three and a half hours. In 1943 an External Broadcast Unit was set up under the Director of News.

All India Radio is now putting out 286 news bulletins daily for a total duration of 38 hours and 55 minutes. Out of these, 89 bulletins are broad-

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cast in the home services for a duration of 12 hours and 15 minutes while 132 news bulletins go on the air daily from 41 regional news units for a duration of 17 hours and 41 minutes. In the External Services, 65 bulletins for a duration of 8 hours and 59 minutes are put out every day. The latest addition to the schedule of news bulletins from AIR is a ten-minute composite news programme in Hindi on FM channel of Delhi. Launched on 24 February 1993, it consists of a five-minute news bulletin, a news commentary and newspaper highlights of about two-and-a-half-minutes each.

The format of the main Hindi and English news bulletins broadcast in the morning was changed with a special signature tune from 16 August 1991. Called *Samachar Prabhat* in Hindi and *Morning News* in English, the 15-minute feature now includes news, a commentary on a topical subject and a round-up of the day's newspapers. With the introduction of additional hourly news bulletins from 1 a.m. to 5 a.m. on 2 October 1991 radio news has now become a round-the-clock service. A five-minute daily feature in Hindi titled *Vikas Yatra* was started on 16 August 1991 to highlight developmental activities in the country. A number of special bulletins such as sports news, slow-speed bulletins and youth bulletins are also regularly broadcast everyday by All India Radio. Besides, press comments are broadcast daily and *Lok Ruchi Samachar* once a week. During the *Haj* period, special bulletin of five-minutes duration is broadcast daily for the benefit of Indian pilgrims. In addition to the news bulletins, the News Services Division puts out a number of news-based programmes. During the Parliament session, daily commentaries in Hindi and English, reviewing the day's proceedings of both the Houses, are broadcast. Likewise all the 41 regional news units of All India Radio put out the reviews of the proceedings of their respective state legislatures whenever in session.

The bulk of AIR news comes from its own correspondents spread over different parts of the country. AIR has 101 regular correspondents in India and seven abroad. Besides, NSD has 246 part-time correspondents spread all over the country. Apart from its correspondents AIR also subscribes to the news agencies - PTI, UNI and their corresponding Hindi services, namely, *Bhasha* and *Univarta* to make bulletins broad based. Another source of news is a small Monitoring Unit attached to the General News Room which constantly monitors the bulletins of major broadcasting organisations of the world and feed the fresh items to the General News Room without loss of time.

The Hindi Newspool of News Services Division of All India Radio has been inaugurated on 14 August 1993. The Pool will function round-the-clock, exactly as the English Pool.

EXTERNAL SERVICES DIVISION (ESD)

The External Services Division (ESD) of All India Radio broadcasts programmes for 71 hours per day in 24 languages (16 foreign including English and 8 Indian languages). The broadcasts follow a composite pattern and generally

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comprise news bulletins, commentaries on current events and a review of the Indian press. Besides this, newsreels, magazines programmes on sports and literature, talks and discussions on socio-economic, political, historical and cultural subjects, features on developmental activities and progress on national life front, documentaries on important events and institutions, classical, folk, and modern music of India's diverse regions form a major part of the total programme output.

General Overseas Service in English (8 hrs 15 mts) and Urdu Service (12 hrs 15 mts) are the two major services of the External Services Division (ESD). The West Asian Service broadcasts programme in Arabic (3 hrs 15 mts), Dari (1 hour 45 mts), Persian (1 hour 45 mts), Pushtu (2 hours) and Baluchi (1 hour). East African countries are served by the Swahili Service (2 hrs) as well as by the Hindi service (4 hrs 15 mts). The French Service (45 mts) is directed to West and North West Africa. Other area oriented services are in Russian (1 hr), Burmese (1 hour 30 mts), Chinese (1 hr 30 mts), Indonesian (1 hr), Sinhala (2 hrs), Thai (45 mts), Nepali (3 hrs) and Tibetan languages (1 hour 45 mts). For Indians abroad, there are services in eight Indian languages i.e., Bengali (6 hrs 45 mts), Gujarati (1 hr), Hindi (4 Hrs 15 mts), Punjabi (2 hrs), Sindhi (3 hrs 30 mts), Tamil (7 hrs 30 mts), Telugu (30 mts) and Urdu (12 hrs 15 mts). These broadcasts project the Indian point of view on world affairs and acquaint the overseas listeners with the developments in India along with the information on the myriad facets of Indian life, thought, culture, tradition and heritage. The encouraging feedback (about 1,200 letters per day) that ESD gets from the listners in the various services is an ample proof of carrying the message of India forcefully across the borders.

PROGRAMME JOURNAL

A monthly journal '*India Calling*' is being published independently by ESD. In addition, quarterly folders in nine foreign languages - Pushtu, Swahili, Tibetan, Arabic, Chinese, French, Indonesian, Persian and Nepali are also published providing advance information of the programmes broadcast in the External Services. The journal supplied free of cost to overseas listeners also carries selected excerpts from the talks broadcast, letters from listeners and other information. Efforts are on to strengthen the signal as well as to consolidate the services to make the impact of the message more meaningful in different parts of the globe.

PROGRAMMES FOR SPECIAL AUDIENCE

The programme for special audience include those for the armed forces, women and children, youth, students, rural and tribal people and industrial workers. Fourteen AIR stations broadcast daily programmes for the armed forces, programmes for women are broadcast in regional languages two to six days a week. Two to seven programmes a week for children are put out. Thirty three AIR stations broadcast programmes for industrial workers. In

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addition, All India Radio, Dibrugarh, Kurseong, Silchar and Guwahati stations broadcast one to two programmes a week for tea garden workers.

Yuva Vani provides a forum for self-expression to the youth who constitute a sizeable section of the population. The service is open to persons in the age group of 15-30 years. AIR stations broadcast this programme in varying duration and frequency in different languages and different formats. AIR Delhi, Calcutta, Hyderabad, Jammu and Srinagar broadcast these programmes for long hours on a separate transmitter under Yuva Vani. For school students, most of the All India Radio stations broadcast programmes based on the school curriculum to students in the interior areas. Radio support to university correspondence degree courses is also provided by several stations. Stations like Shimla, Nagpur and Tiruchi also broadcast programmes on non-formal education.

Intensive family welfare broadcasts are made from 36 stations. Other stations also put out programmes related to family welfare. Particular emphasis is laid on 'Two children norm' and 'Spacing methods'. Use of contraceptives, raising of marriage age, terminal methods of family planning and women's education, health protective measures in respect of immunization, AIDS, drug abuse, goitre control, control of rabies, epilepsy and blindness etc., are highlighted frequently.

RURAL PROGRAMME

Rural programmes are broadcast from almost all AIR stations in regional languages and local dialects. In 1966, AIR set up Farm and Home Units in selected AIR stations to provide relevant and problem-oriented farm information to the farmers of a small homogeneous area with similarity of agro-climatic conditions. This marked the beginning of a new era of farm broadcasting in the country. The main ingredients of Farm and Home broadcasts are hints on day-to-day agricultural operations, scientific methods of agricultural and livestock farming, soil and water management, fertiliser application, plant protection measures, storage and marketing etc. The duration of broadcasts for rural audience from each station varies from 21 to 45 hours a month. It is broadcast in the morning, evening and noon every day for convenient listening by majority of the rural people.

SPOKEN WORD PROGRAMME

National programmes of talks/discussions in Hindi and English are broadcast on every Monday and Tuesday. This national programme is relayed by a number of AIR stations depending upon local listening interest. It covers a wide-range of subjects of national importance and provides support to general campaigns including national integration, communal harmony, environmental protection, energy conservation, rural development, family welfare and eradication of social evils such as untouchability, superstitions etc.

AIR has instituted lectures in English in memory of Sardar Vallabh Bhai Patel first Minister for information and Broadcasting of free India, and in Hindi in memory of Dr. Rajendra Prasad, the first President of Indian

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Republic. A national symposium of poets is held every year in which eminent poets from almost all the national languages of the country participate. This symposium is broadcast on the eve of the Republic Day on national hook-up.

CENTRAL MONITORING SERVICES

Monitoring of foreign broadcasts began in India in November 1939. A monitoring unit was put in operation at Delhi as a branch of military intelligence mainly to collect material for preparation of counter propaganda and to keep a security-check on enemy broadcasts during second World War. In March 1940 the unit was shifted to Shimla to take advantage of better reception at higher altitude. In the very next year, it was brought under the Department of Information and Broadcasting. In October 1945, the unit came under the Directorate General, All India Radio. It was brought back to Delhi in April 1981 and is now located at Ayanagar in the outskirts of the capital. Later the Unit changed its role to provide information about foreign broadcasts for AIR, NSD and to feed key departments like Ministry of Home Affairs, Defence, External Affairs and Information and Broadcasting.

With the overall growth of India and its significant importance and also due to various other developments in the sub-continent, a need was felt for a more comprehensive organisation to cope with emerging new situations. Accordingly, Central Monitoring Cell and the monitoring services were merged and renamed as Central Monitoring Services (CMS) of All India Radio. Central Monitoring Services monitors 180 transmissions from 32 foreign stations round the clock. Besides transmission in Indian languages, broadcasts in six foreign languages are being monitored at present. The monitoring of TV telecasts from some neighbouring countries is also done by the CMS. Since early 1992 monitoring of telecasts of CNN and BBC has also been started. However CMS monitors news and news-based programmes only.

AUDIENCE RESEARCH

The Audience Research Unit caters to the research and feedback requirements of the entire network of Akashvani including the Commercial Broadcasting Service and the External Services Division. It provides data on audience size and composition, reaction of listeners on the qualitative aspects of the programmes and assessment of their impact on the target audience. Audience Research forms the basis for remedial action in programme planning and scheduling, in the qualitative improvement of the programme fare and for policy formulation. In fact, it forms the vital link between listening public and the broadcasting organisation in the latter's constant endeavour to cater to the needs, expectations and tastes of the people. The unit also maintains reference data for the use of various wings of the Directorate and individual stations.

The Audience Research network comprises 43 audience research units at different AIR stations and six mobile units functioning at the zonal

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stations *viz.* Delhi, Bombay, Calcutta and Madras. Besides, there is a separate unit for the Commercial Broadcasting Service located at Bombay. The headquarters unit is responsible for providing technical guidance, co-ordination and monitoring of the field units, initiate necessary action on the findings of the research studies and prepare special reports, documents etc.

TRANSCRIPTION AND PROGRAMME EXCHANGE SERVICE

Transcription and Programme Exchange Service consists of three primary wings namely, the sound archives, the transcription and the programme exchange units.

AIR Sound Archives has a collection of a plethora of recordings comprising folk music, Radio Sangeet Sammelen, plays, documentaries, reminisences, radio autobiographies etc. It also preserves the speeches of Prime Ministers and Presidents as well. It is worth mentioning that the Sound Archives has about 50 hours recording of Mahatma Gandhi's voice and about 2,000 tapes of Pt. Nehru's recording.

The Transcription Unit keeps a recording of the speeches of the Prime Minister and the President. The speeches are procured, transcribed and kept in the form of volumes for future use and reference.

The basic job of Programme Exchange Unit is to supply test transmission, obituary programmes, language lessons, community singing and other songs, talks and interviews etc. which are received from the contributing stations and are sent to the indenting stations. It also supplies western music programmes received from various foreign broadcasting agencies.

DOORDARSHAN

Television started in India as an experimental service in September 1959, with a limited transmission of three days a week. The regular service began in 1965. In 1976, Television was delinked from All India Radio to form an independent organisation, Doordarshan. It witnessed an unprecedented growth with installation of almost one transmitter a day in 1984 and immediately thereafter. As on 25 February 1993 it reaches 82.4 per cent of the population through a network of 542 transmitters—66 high power transmitters (HPTs), 373 low power transmitters (LPTs), 80 very low power transmitters (VLPTs) and 23 transposers. There are 22 programme production centres namely, Delhi, Lucknow, Gorakhpur, Jaipur, Jalandhar, Srinagar, Nagpur, Patna, Bombay, Panaji, Calcutta, Guwahati, Cuttack, Ranchi, Ahmadabad, Rajkot, Hyderabad, Madras, Bangalore, Thiruvananthapuram, Bhopal and Pondicherry. In addition Central Production Centre (CPC) with two large studios equipped with modern and sophisticated facilities is in operation in Delhi since 1988. CPC has undertaken production of prestigious programmes like ballets, telefilms, serials, special programmes and other variety items.

The first experiment with satellite technology in India was undertaken by Doordarshan in 1975-76. The year 1982 witnessed the introduction of

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regular satellite transmission, the start of national programme and Doordarshan switching to colour transmission. The national programme focussed on national integration, communal harmony, family welfare, art and culture, scientific innovations and current affairs. Doordarshan introduced a revised telecast pattern of programmes with effect from 1 January 1983. The national programme now starts at 8.30 PM and continues till 11.30 PM.

In the evening there is a regional service from 5.00 PM to 8.30 PM. It includes items on agriculture, animal husbandry, health, sanitation, small scale industries for the rural viewers besides other programmes for specific audience like women, children, youth and tribals from some *Kendras*. The programmes are telecast largely in respective regional languages. The regional programmes to all the transmitters in Maharashtra, Andhra Pradesh, Tamil Nadu, Karnataka, Orissa, West Bengal, Gujarat and Assam have been linked up with the mother stations at the state capitals. In Kerala and Punjab the regional service has, however, been partially started.

Doordarshan introduced the second channel of transmission in Delhi in September 1985, followed by its commissioning in Bombay, Calcutta and Madras. This has been a landmark towards fulfilment of the targetted three-tier service— the national service, the regional service and the local alternative viewing of programmes of their choice and local interest. It introduced from 26 January 1993 a one-hour entertainment chunk from 8.00 PM to 9.00 PM on the metro channels of Delhi, Bombay, Madras and Calcutta called the 'Metro Hour' for allotment of two half-an-hour slots to private parties for telecast of their programmes. 'Metro Hour' time has been extended upto 10.00 PM with effect from I April 1993.

Doordarshan introduced its first School Television (ETV) in October 1961. As new *Kendras* came up, the School Television was extended to these centres also.

One of the S-band transponders of INSAT-1D is used between 9.00 AM and 12.00 noon for telecast of syllabus-based ETV programmes in Bihar, Gujarat and Uttar Pradesh. Similarly one of the C-band transponders ARABSAT is also used for dissemination of ETV programmes in Andhra Pradesh and Maharashtra in their respective languages on time sharing basis. The service in Hindi is also telecast in Haryana, Himachal Pradesh, Madhya Pradesh and Rajasthan. The transponder in S-band (INSAT) is also being used for national network relay of UGC programmes from 1.00 PM to 2.00 PM which is repeated in the afternoon from 4.00 PM to 5.00 PM on certain days.

In March 1975 India's first Primary School Service was commissioned at Delhi for the institutions run by the Delhi Municipal Corporation. At present regular programmes are telecast from selected transmitters both for formal and informal education. The production of the software for this purpose is the responsibility of the Department of Education who have set up a Central Institute of Educational Technology (CIET). From 20 May

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1991 syllabus-based programmes are being telecast to the students of Indira Gandhi National Open University thrice in a week, on an experimental basis.

The morning transmission introduced on 23 February 1987 initially for a duration of 45 mts is now for 110 mts duration on all the week days except on sundays when its duration is only of 75 mts. The transmission generally includes skits, serials in the lighter vein, interviews with personalities, short documentaries, health-hints, light music and programmes based on song and dance sequences besides economic magazine programme on current economic issues. It also has two news bulletins in Hindi and English of 15 minutes duration at 7 AM and 8.15 AM respectively. Subsequently, afternoon transmission started initially on saturdays but has now been extended to all days of a week with effect from 26 January 1989. It includes two short news bulletins in Hindi and English besides items of interest for children, women and elderly persons. Initially the programme was for a little over one hour but from 1 January 1993 it is of two to three hours duration each day.

Telecast of commercial spots on Doordarshan was introduced on 1 January 1976. Subsequently, sponsored programmes were also accepted. Now both the channels of Delhi, Bombay, Calcutta and Madras in addition to Hyderabad, Bangalore, Jalandhar, Lucknow, Srinagar, Thiruvananthapuram, Ahmadabad and Guwahati telecast commercial advertisements. Doordarshan Commercial Service at Delhi accepts bookings for national/network segments for all *Kendras*. There has been a steady increase in the earnings of Doordarshan through commercials. Gross revenue for 1991 and 1992 is Rs 286.10 crore and 354.69 crore respectively.

News and current affairs form an important component of Doordarshan programmes. The duration of the two daily news bulletins was 7 1/2 minutes each, in Hindi and English telecast at 2.00 PM and 3 PM respectively. It has been increased to 10 minutes from 1 January 1993. The timings of the main news bulletins in Hindi and English, at 8.45 PM and 9.30 PM were changed to 8.30 PM and 9.45 PM with effect from 1 January 1993. *Sansad Samachar* is now telecast at 10.00 PM and 'Parliament News' in English at 10.40 PM for a duration of 10 minutes each when Parliament is in session. An Urdu news bulletin of five minutes duration was introduced from Doordarshan Kendras, Delhi, Hyderabad, Lucknow and Patna from May 1992 and from Calcutta from August 1992. Doordarshan Kendra, Guwahati also introduced an additional morning news bulletin in Assamese from 19 November 1992. At present only 14 Doordarshan Kendras with programme production facilities telecast news bulletins in their respective regional languages.

Teletext Service known as INTEXT was introduced at Delhi Doordarshan Kendra in November 1985 to transmit information on subjects of common interest like timings of trains and air services, stock market and weather forecasts etc. In the beginning, the service was available to viewers

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with the help of decoder attachment. Now a segment of this service is provided on Channel II without the decoder.

With the approval of General Committee of both Houses of Parliament, Doordarshan commenced the experimental telecasts of proceedings of Question Hour of Lok Sabha and Rajya Sabha on alternate basis with effect from 3 December 1991. Doordarshan also arranged the live telecast of address by the President to members of both the Houses, Finance Minister's budget speech and Railway Budget presentation. Doordarshan for the first time telecast the debates on Motion of Thanks to the President, General Budget, Demands for Grants of Ministries during the Budget, Session in 1992.

PRESS AND PRINT MEDIA

REGISTRAR OF NEWSPAPERS FOR INDIA

Registar of Newspapers for India commonly known as 'Press Registrar' came into being on 1 July 1956. The Registrar allots newsprint and recommends import of printing machinery for newspapers. The duties and functions of the Press Registrar are defined in the Press and Registration of Books Act, 1867, as amended from time to time.

Indian press includes 41 centenarians. The Gujarati daily *Bombay Samachar* published from Bombay is the oldest existing newspaper which was started in 1822. *Anand Bazar Patrika, Punjab Kesari* and *Times of India* retained the first, second and third position respectively circulation wise. At the end of 1991 the total number of newspapers was 30,214 compared to 28,491 in 1990 an increase of six per cent. Among them, 3,229 were dailies, 257 tri/bi-weeklies, 9,621 weeklies and 17,107 other periodicals. Newspapers are published from all states and union territories. Uttar Pradesh claimed the top position with 4,207 newspapers. It was followed by Delhi (3,977), Maharashtra (3,359), West Bengal (2,788), Madhya Pradesh (2,037), Rajasthan (2,018). Tamil Nadu (1,805), Karnataka (1,512), Andhra Pradesh (1,480), Bihar (1,375) and Kerala (1,352).

In the case of dailies also, Uttar Pradesh maintained its top position with 479 newspapers, followed by Bihar (362) and Maharashtra (285). Apart from the sixteen principal languages and a few in foreign languages, the highest number of newspapers were published in Hindi (10,633) followed by English (4,562). Table 11.1 shows publication of newspapers language wise at the end of 1991.

CIRCULATION

Total circulation of newspapers/periodicals as on 31 December 1991, was 5,38,85,000 copies as compared to 5,31,60,000 copies in 1990 indicating an increase of 1.4 per cent. According to the circulation data available, 113 come in the category of big newspapers (having a circulation of more than 75,000 copies), 298 in medium category (with a circulation between 25,001 and 75,000 copies) and 3,136 small category (with a circulation upto 25,000 copies).

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OWNERSHIP PATTERN

The largest number of newspapers in all languages except Kashmiri, were owned by individuals during 1991. Individual newspapers were having the biggest share in circulation with 40.3 per cent.

TABLE 11.1 NUMBER OF NEWSPAPERS IN 1991

No.	Languages	Dailies	Tri-Bi-weekly	Wee-klies	Fourtni-ghtlies	Month-lies	Quart-erlies	Others	Annuals	Total
1.	Hindi	1,381	103	4,969	1,652	2,056	344	109	19	10,633
2.	English	225	18	581	462	2,020	979	556	121	4,962
3.	Assamese	9	2	45	27	38	10	7	1	139
4.	Bengali	71	11	496	359	561	340	112	8	1,958
5.	Gujarati	67	5	263	111	378	47	31	9	911
6.	Kannada	178	5	268	153	361	33	14	2	1,014
7.	Kokani	0	0	0	0	0	0	0	0	0
8.	Kashmiri	0	0	1	0	0	0	0	0	1
9.	Malayalam	174	1	147	131	567	39	15	8	1,082
10.	Marathi	204	15	516	128	388	85	33	81	1,450
11.	Oriya	36	0	70	50	201	71	16	4	448
12.	Punjabi	73	14	261	61	197	24	17	1	648
13.	Sanskrit	3	0	6	1	13	12	3	0	38
14.	Sindhi	8	0	28	9	31	6	2	0	84
15.	Tamil	270	34	287	180	546	20	7	2	1,346
16.	Telugu	71	2	194	125	317	20	5	1	735
17.	Urdu	344	18	903	261	419	42	13	3	2,003
18.	Billingual	44	12	424	242	369	262	98	26	1,977
19.	Multilingual	13	4	76	41	187	58	24	6	409
20.	Others	58	13	86	33	111	61	14	0	376
	TOTAL	3,229	257	9,621	4,026	9,260	2,453	1,076	292	30,214

PRESS INPORMATION BUREAU

The Press Information Bureau (PIB) is the central agency of the Government of India to disseminate information on its policies, decisions, programmes and activities. The information put out by PIB goes to daily newspapers, news periodicals and news agencies as well as radio and television organisations both Indian and foreign. With a countrywide teleprinter network and air bag facilities, PIB reaches newspaper organisations not only in Delhi but all other parts of the country as well. No other organisation in the country reaches such a large number of newspaper organisations and other media. PIB distributes its press material to over 8,000 newspaper establishments.

FUNCTIONS

The main functions of the Bureau are to put out information on Government policies, programmes and activities, obtain feedback on how these are received and to apprise the Government of public reaction as published in the news and editorial columns of English and Indian language newspapers. The Bureau also advises the Government on its information policy.

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Officers of the Bureau at its headquarters in Delhi are attached to different ministries and departments of the Government of India. These officers explain and interpret government policies and disseminate factual information. The departmental publicity officer also performs the role of public reaction evaluator, keeping the Government in touch with public opinion besides providing explanation and backgrounders to official pronouncements. He also acts as an adviser to the Government on press relations and publicity. He maintains constant liaison with newspaper correspondents and representatives of other mass media.

The Bureau employs a variety of means to disseminate information. Written material issued by the Bureau includes press releases, press communiques, press notes and hand-outs, backgrounders, features and newsletters. The material is put out in English, Hindi, Urdu and 13 other Indian languages. The Bureau also arranges press conferences and briefings to enable media representatives to get the news and clarifications at first hand.

PICTORIAL SERVICES

PIB arranges photo coverage of Government activities. A large number of photographs on Government activities are supplied to dailies and periodicals all over the country to enable them to supplement written coverage by pictures. The Bureau has its telephoto equipments with which photographs are transmitted the same day to some of its regional and branch offices. The Bureau supplies ebonoid blocks to small and medium newspapers which have no facility to make their own blocks. *Charbas* are supplied to Urdu newspapers for use in the litho process.

PIB also supplies news photographs to newspapers. Both black and white and colour prints are provided to newspapers. Through telephoto service connecting PIB Delhi with Calcutta, Bombay and Madras, important news photographs are now reaching newspapers in those areas the same day.

ACCREDITATION

At present, there are 1,269 journalists accredited to the Government at the headquarters. They include correspondents of news agencies, newspapers, editor-cum-correspondents, correspondent-cum-cameramen, cameramen, cartoonists and cartographers both Indian and foreign.

CULTURAL EXCHANGE PROGRAMMES

The Bureau is the implementing agency for exchange of delegation of journalists between India and foreign countries under cultural exchange programmes and protocols.

REGIONAL AND BRANCH OFFICES

The Bureau has network of eight regional offices at Bombay, Madras, Chandigarh, Calcutta, Lucknow, Guwahati, Bhopal and Hyderabad, 27 branch offices/branch-cum-information centres and two information centres,

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most of which are linked with the headquarters by teleprinter. The two information centres are at Aizawal and Port Blair. Through the regional and branch offices, the Bureau supplies press material to newspapers and other news media of various Indian languages, besides Hindi and English in all parts of the country. Libraries are also attached to the information centres which serve as respositories of information on various development matters.

PIB Delhi is linked with computers with its regional offices located at Calcutta, Bomaby, Madras, Guwahati, Lucknow, Chandigarh, Bhopal and Hyderabad. Eventully all its field units will be linked by computers. Regional offices are also linked by fax. Information dissemination from Delhi to PIB's field units(37) is being further improved by introducing switching system to ensure speedy and efficient transmission enabling press material to reach newspapers throughout the country.

NATIONAL PRESS CENTRE

A National Press Centre has been set up in the Press Information Bureau, New Delhi. It serves as a nerve centre for both national and international press. The centre has all facilities of international standards like a telcommunication centre, a press conference hall and a cafetaria.

NEWS AGENCIES

PRESS TRUST OF INDIA

Press Trust of India (PTI) is a non-profit sharing cooperative of newspapers, with a mandate to provide efficient and unbiased news service to all its subscribers without discrimination. Established on 27 August 1947, PTI took over the Associated Press of India, a news agency set up in 1908, and the Indian operation of Reuters and began functioning from 1 February 1949.

Today PTI's news service in English contains around 1, 00,000 words per day. Since March 1992, this news service is offered to a subscriber as a compact and self-contained 'core' service with the option to select one or more 'segments' from among national and regional news, international news, economic and commercial reports and rates, and sports news for a more detailed coverage according to one's specific requirements. Computerisation of the news operations in the agency's metropolitan offices at Delhi, Bombay, Calcutta and Madras, and introduction of data channels, satellite transmission and electronic printers during the last ten years have also altered the editing, transmission and reception patterns enabling a faster and more satisfactory service to the subscribers today. A network of 145 bureaux, over 400 journalists, about 300 part-time correspondents across the country, over 40 staffers and stringers around the world, and arrangements with Retuers, AFP and several national news agencies go to make up the backbone of this service.

At the beginning of the 1980s PTI embarked on a phase of diversification and modernisation. The diversification process has seen the agency

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start *Economic Service, Corporate Trends* and *Science Service* as fortnightly information journals and feature services in English and Hindi as weekly mailers. A news-scan service providing news on video monitors was started in 1982. A television facility, PTI-TV was launched in 1986. PTI-*Bhasha* was started in 1986 as the news service in Hindi. PTI-Photo was launched in 1987 to provide the first wirephoto service of the country. The agency's Stockscan service has since 1987 networked the stock exchanges of the country to provide for an inter-market display of share prices and commercial information. From the beginning of 1992 PTI has also taken over the publication of *Data India*, a weekly news digest on developments pertaining to India, from the Press Institute of India. PTI is now all set to launch two new services, Stockscan Version II and Comscan. Stockscan Version II will be offered as a sophisticated PC-based on-line equities information service in user-defined formats on a colour monitor. The Comscan will cover the entire spectrum of commercial and financial markets and will be available in user-definable segments retrievable on computer terminals.

The modernisation process began with computerisation of news operations in 1984. An R&D wing was constituted soon thereafter with the objective of fabricating equipment and software needed by the agency. Introduction of high-speed electronic printers has enabled delivery of news at a speed several times the 50 band transmission on the old electromechanical teleprinters. An experimental satellite transmission project has enabled the agency to reach its services directly anywhere in India through roof-top dish antennae. The project is now in its second phase of implementation with experiments on to simultaneously relay traffic from Delhi, Bombay, Calcutta and Madras,instead of only Delhi as at present. PTI is also simultaneously engaged in a programme for upgradation of its computer and communication network through installation of news handling computer systems in the agency's state captial and other bureaux and linking them through high-speed data channels and satellite reception terminals.

PTI is a leading participant in the Pool of News Agencies of the Non-aligned Countries and the Organisation of Asia-Pacific News Agencies (OANA). It is a major redistribution centre in the news exchange networks of both the multilateral arrangements.

UNITED NEWS OF INDIA

United News of India (UNI) was registered as a company on 10 November 1959 and began its news operations from 21 March 1961. UNI is now one of the largest-news agencies in Asia with over 100 news bureaux in India and abroad. It has more than 1,000 subsribers in the country and over 30 abroad. Its news service is provided to subscribers in four Gulf countries as well as in Singapore, Mauritius, Hong Kong and Bhutan. It has reporters in over 300 big and small towns in India. Besides fielding 22 correspondents in 20 foreign countries in all the five continents, UNI has collaboration with 19 foreign news agencies.

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UNI launched a full-fledged Indian language news service, *Univarta*, in Hindi, in May 1982. This was followed up a decade later with the launching of an Urdu Service on teleprinter for the first time in the world. Other teleprinter services of the news agency include UNIFIN, a specialised service for banking, financial and commercial organisations as well as UNISTOCK, a service for stock exchanges and stock brokers.

In July 1986, UNI started its television wing which provides news features, newsclips and documentaries for Doordarshan and other organisations. Another specialised service run by the news agency is UNISCAN, a news service fed into television sets. A national photo service started in 1987 is another pioneering venture.

United News of India has a number mailer services, the oldest of them being backgrounders. UNI backgrounders in both English and Hindi are issued once a week. Other mailer services are: UNI agriculture service in English, UNI news features in English and Hindi, UNI economic service and UNI energy news service. It also supplies UNI graphics- computer designed graphics in ready-to-use-form on economic and other topical subjects on regular basis. The news agency has computerised its operations in all the metropolitan centres and efforts are on to extend this to a few major centres soon.

NON-ALIGNED NEWS AGENCIES POOL

Non- Aligned News Agencies Pool (NANAP) is an arrangement for exchange of news between the news agencies of Non-aligned countries who have for long been victims of imbalances and bias in the flow of news.The Pool came in to existence in 1976. India was the first Chairman of the Pool (1976-79). The Pool is a world wide operation embracing four continents, *viz.*, Asia, Eastern Europe, Africa and Latin America. The Pool news is transmitted in four languages - English, Spanish, French and Arabic.

To coordinate the activities of the Pool, there is an elected body known as the Coordinating Committee with an elected Chairman as its head. The Chairmanship which is for a fixed term of three years, is co-terminus with the tenure of the Coordinating Committee and goes by rotation. The members of the Coordinating Committee are elected on the basis of regional representation, continuity, active participation and rotation. The Committee meets at least once a year and its meetings are open to all participants. The Chairman and members of the committee are elected during the General Conference held at the end of every three years.

The Sixth General Conference of the Pool was held in Tehran (Iran) in June 1992 when IRNA, the news agency of Iran assumed the Chairmanship of the Pool from ANGOP of Angola. The Coordinating Committee of the Pool, which meets every year has so far held 16 meetings since 1977 when the first meeting was held at Cairo. The last meeting of the Coordinating Committee took place at Tehran one day before the General Conference.

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At the Sixth General Conference the following Coordinating Committee was elected for the next three years:Chairman: Iran; and Members: ASIA—India, Indonesia, DPR Korea, Syria, Vietnam, Mangolia, Bahrain, Afghanistan, Lebanon, Kuwait and Oman; AFRICA - Angola, Algeria, Burkena Faso, Congo, Ethiopia, Egypt, Gabon, Ghana, Guinea Bissau, Morocco, Mozambique, Namibia, Senegal, Sudan, Tanzania, Tunisia and Zambia; LATIN AMERICA - Bolivia, Cuba, Ecuador,Mexico, Peru, Surinam and Venezuela and EUROPE - Yugoslavia.

At the Tunis General Conference of the Pool (November 1982), a resolution was passed to form a Monitoring Group for closer review and monitoring of the Pool operations. The first meeting of the Group was held in Tunisia (November 1982) and the last held in Havana (Cuba) in November 1991. Presently the Monitoring Group elected at Tehran General Conference, consists of Malaysia, India, Indonesia, Nigeria, Libya, Zimbabwe, Mexico, Peru and Cuba.

India has played a vital role in the creation and expansion of the Pool. So far, 12 satellite links and 4 terrestrial links have been established with news agencies of Indonesia (Antara), Yugoslavia (Tanjug), Cuba (Prensa Latina), Baharain (GNA), Sri Lanka (Lankapuvath), Vietnam (VNA via TASS), Malaysia (Bernama), Tunisia (ATP), London (PTI Bureau), Zimbabwe (ZIANA), Iraq (INA) and Zambia (ZANA). In addition there are terrestrial links with Bangladesh (BSS), Pakistan (APP), Nepal (RSS) and Afghanistan (BNA).

India News Pool Desk (INPD) is operated by Press Trust of India (PTI). INPD receives news items from the Pool partners. The incoming news traffic in the Pool is about 30,000 words a day and out going 8,050 words a day. Several newspapers all over the country regularly publish news items issued by the Pool . The professional aspect of the INPD is the responsibility of the PTI, the financial aspect is the responsibility of the Information and Broadcasting Ministry.

PRESS COUNCIL OF INDIA

Press Council has been established under an Act of Parliament for the purpose of preserving the freedom of the press, maintaining and improving the standards of newspapers and news agencies in India. The Council comprises of 28 members besides its Chairman. The Chairman of the Council has, by convention, been a retired or a sitting Supreme Court Judge. Twenty of the 28 members belong to the newspaper world, while five are members of Parliament, three nominated by the Speaker of the Lok Sabha and two by the Chariman of the Rajya Sabha. Of the remaining three, one each is nominated by the Sahitya Akademy, Bar Council of India and the University Grants Commission.

The Council which is a quasi-judicial body, does not have any punitive power, but it has a moral authority. If a newspaper is found guilty of committing an offence against journalistic ethics, the Council may ad-

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monish, warn or censure the delinquent newspapers and further direct it to publish its decision in that very newspaper. It may also direct the erring newspaper to publish the complaint's reply/rejoinder and with apology in appropriate cases. It considers and decides complaints both by the press and against the press. In this process where, on one hand it helps newspapers and news agencies to maintain their independence, on the other, it ensures on the part of the newspapers, news agencies and journalists, the maintenance of high standards of public taste and fostering a sense of rights and responsibilities of citizenship. So it is freedom with responsibility.

Between April 1992 to 31 December 1992 the Council received 588 complaints. The Council is working at an increasing pace to dispense faster justice. The proliferation of incidents of attacks and assaults on editors/reporters/photographers etc., engaged the attention of the Press Council during 1992-93. It set up a committee to examine these increasing incidents of attacks/assaults. The Council also set up a special committee to inquire into the reports of assaults on journalists in Ayodhya on 6-7 December 1992. Its report was made public on 8 January 1993.

An International Conference of press councils and similar bodies was held in New Delhi on 22-24 October 1992. The Conference approved the establishment of a World Association of Press Councils. It recorded its opinion against grant of punitive powers to Press Councils. It also took on record the Guide to Journalistic Ethics prepared by the Indian Press Council and commended to other press councils and similar bodies of the world to emulate the Indian pattern instead of laying down a specific code of conduct.

RESEARCH AND REFERENCE DIVISION

Research and Reference Division functions as an information servicing agency to the Ministry of Information and Broadcasting, its media units and their field offices. It serves as an information bank as well as an information feeder service to the media units to help in their programming and publicity campaigning work. The Division also studies trends in mass communication media and maintains a reference and documentation service on current affairs and mass communication. The Division is lineal descendent of Foreign Publicity and Planning Office and Counter Propaganda Directorate, both World War II creations. The Division was abolished shortly after it came into being following a cut-motion in Central Legislative Assembly. It was revived on 9 August 1950 and was given the following tasks: (a) to undertake research on matters of publicity, (b) to provide guidance and background notes on current affairs and other topics, (c) to build up a compendium of knowledge on important subjects and (d) to prepare publicity material for the use of various media units of Ministry of Information and Broadcasting.

The Division compiles on regular basis backgrounders, reference papers, diary of events, etc., on events and issues of public importance as well as

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biographical sketches of eminent personalities in different fields of national life. It also compiles annually a comprehensive book of reference: *India-A Reference Annual*. The Annual contains information on India's geographic and demographic features; its polity and economy; its plans and programmes for socio-economic development, etc. The Annual has been coming out regularly since 1953 and is rated high as a book of reference on India.

The Division maintains a well-stocked library which is being widely used by accredited press correspondents and media persons. Built around the library is a whole range of documentation activity, under which books, articles appearing in journals, reports and reference papers received from the ministries, departments and a number of public and private institutions are indexed and catalogued subjectwise. A separate unit scrutinises leading newspapers in the country to take out clippings on a variety of current events and issues and indexes them subjectwise. This vast storehouse of evergrowing information material is put to use for preparing background and reference papers and for meeting special day-to-day queries and demands from the media units of the Ministry, other ministries and departments of the Government and the pressmen.

The National Documentation Centre on Mass Communication was set up as part of the Division in 1976 with the broad objective of collecting, interpreting and disseminating information relating to the agencies, events and trends in the field of mass communication, including press, radio, television, advertising, traditional and folk media and different media units of the Central and state governments. The Centre documents and indexes all news items, articles and other information material on mass communication and mass media. It also disseminates the information collected by it through nine regular documentation services. The Centre brings out a reference annual on mass communication, under the title *Mass Media in India*.

PHOTO DIVISION

Photo Division, a subordinate office of the Ministry of Information and Broadcasting, is engaged in photographically documenting the growth and socio-economic development and cultural environment in the country and provides visual support required in communication. It has a valuable collection of photographic negatives of archival value on major news events. It is the biggest production unit of its kind in the country in the field of photography with gigantic production crossing more than six lakh prints per annum in various sizes. The Division provides photographic prints for internal and external publicity. The caption and the positive print albums are maintained in a separate photo library under the Press Information Bureau. The library is the main feeding channel to the outside agencies. The Division has a well-equipped colour laboratory to meet the requirements of colour prints.

The Division supplies black and white and colour photographs of important national and international events to the Press Information Bureau for

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distribution to the press in the country and Indian missions abroad. It also undertakes photo coverages of visits abroad of Prime Minister, Vice President and other VIPs and transmits radio photos of the coverages for publicity in the Indian press.

Photographs are supplied free to the Press through the Press Information Bureau and on payment to various government departments, non-publicity organisations and members of public, etc. for their use. The Division also provides training in photography to the photographers from Commonwealth countries under the Colombo Plans as well as to the photographers of various state governments.

In March 1993 Photo Division organised its Fifth Annual National Photo Contest and Exhibition on the theme 'Modern India' by inviting photographs from amateur photographers in the country to participate in the competition by sending maximum 4 photographs in both sections i.e. black and white and colour on the above theme. Three hundred and ninety three black and white and 722 colour entries were received from 372 amateur photographers and 17 awards were presented-13 in colour section and 4 in black and white sectior after having a selection/screening of photographs by the jury. The exhibition of award winning/selected photographs was held at L.T.G. Art Gallery, Copernicus Marg, New Delhi from 22 March 1993 to 28 March 1993.

The main office of the Photo Division is located at Soochna Bhavan in New Delhi besides its three regional offices at Bombay, Calcutta and Madras and a photo unit at Guwahati.

PUBLICATIONS DIVISION

Publications Division, a media unit of the Ministry of Information and Broadcasting, provides up-to-date and authentic information on all subjects of national importance at home and abroad through books and journals in English, Hindi and major Indian languages. It has emerged as the largest publishing house in the public sector.

The Division was set up as a part of the Home Department in January 1941 and was then known as the Foreign Branch of the Bureau of Public Information. In 1943 the office was transferred to the then Department of Information and Broadcasting and was re-designated as the Publications Division in December 1944. In 1992 the Division completed 50 years of its glorious existence.

The aims of the Publications Division are (i) to disseminate information about the country's development in various fields; (ii) to facilitate national integration by promoting greater awareness and understanding among the people of different regions adhering to different faiths and beliefs; (iii) to stimulate interest in and to generate and promote appreciation and respect for variegated pattern of life and culture in India; and (iv) to preserve art, culture and heritage of the country through print.

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The books and journals brought out by the Division cover subjects on art and culture, flora and fauna, travel and tourism, biographies of eminent persons, speeches of national leaders and women and children literature. The publications also include books on popular science, education, history, fine arts, ecology, comparative study of religions, ethics and morality projecting various shades of India's unity in diversity besides reference and other specialised literature. A distinctive feature of the Division's activities is that it has brought out some of the finest books of lasting significance on various facets of art and culture, such as A Handbook of Paintings of Graphics, A Handbook of Sculpture, An introduction to Indian Music, Basohli Painting, Eye in Art, Folk Metal Crafts in Eastern India, 5000 years of Indian Architecture, Garhwal Paintings, Guler Paintings, Handicrafts of Rajasthan, India's Craft Tradition, Indian Coinage, Indo-Arabic Arts, Indo-Islamic Architecture and a lot of other books on painting, architecture etc.

The Division has so far brought out over 7,000 books and volumes in Hindi, English and major regional languages of the country. On an average, it now publishes about 100 titles every year. A special feature in 1992-93 was that the Division brought out a large number of original publications on popular folk tales in various regional languages. The Division continues to publish the series of low-priced books under the title, 'Books for Millions', 'Wisdom of India' and 'Thus Spake'. These endeavour to project the contributions of our ancient luminaries like Varahmihira, Aryabhatta, Panini, Gargi etc., and contain the sayings of India's spiritual leaders.

The Division publishes 20 journals of varying periodicity devoted to different disciplines in English, Hindi and other regional languages. Employment News is brought out in English and *Rozgar Samachar* in Hindi and Urdu. It had a circulation of above 4.37 lakh copies a week in March 1993. The weekly besides projecting job opportunities in Central/state government departments and undertakings and premier organisations has added a new dimension of career promotion by providing a large package of guidance material for the candidates preparing for various examinations and interviews. The subject-specific series are directly related to the syllabi for Central Civil Services and other examinations. *Kurukshetra,* a monthly journal in English and Hindi is devoted to project the all-round development, achievements and experience under the Plans in the field of rural reconstruction and cooperation. The monthly journals *'Ajkal'* (Hindi) and *Ajkal* (Urdu) are mainly devoted to literature and culture. *Bal Bharati,* a monthly in Hindi is devoted to inculcate writing habit in children. *Yojana,* fortnightly is brought out in 12 languages. It seeks to carry the message of Five Year Plans and national economic policies to all sections of people. The Division is also the publisher of 'India-A Reference Annual' and 'Mass Media in India' both compiled by the Research and Reference Division of the Ministry of Information and Broadcasting. A highly ambitious publishing programme in close cooperation with UNICEF has been launched. The

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Division has made significant expansion of its publishing activities by launching two new low-priced series *'Quotable Quotes'* from great personalities of India and *Bharat Ki Mahan Naarian.*

The Publications Division has brought out 90 volumes in English and 83 Volume in Hindi Under the Collected Works of Mahatma Gandhi. Three Supplementary Volumes in English have also been brought out.

The Bharatendu Harishchandra Awards were instituted by the Publications Division in 1983. Under this project Indian writers are awarded every year to encourage original and creative writing in Hindi on various disciplines of mass communications. The first, second and third prize winning entries yearly Rs 25,000, Rs 15,000 and Rs 1,000 respectively apart from five merit prizes of Rs 5, 000 each.

AUDIO-VISUAL MEDIA

Feature films are being produced in India since 1912-13. While R.G. Torney along with NG Chitre made *Pundalik* in 1912, Dhundiraj Govind Phalke (1870-1944) produced *Raja Harishchandra* in 1931. The era of silent films was overtaken by the talkie era in 1931 when Ardeshir Irani (1886-1969) produced *Alam Ara*, though silent movies continued to be produced till 1934. India now leads the world in the annual output of feature films.

CENTRAL BOARD OF FILM CERTIFICATION

Films can be publicly exhibited in India only after they have been certified by the Central Board of Film Certification (CBFC). The Board set up under the Cinematograph Act, 1952 consist of a Chairman and a minimum of 12 and a maximum of 25 non-official members, all appointed by the Government. The Board functions with headquarters at Bombay and nine regional offices at Bangalore, Bombay, Calcutta, Hyderabad, Madras, Thiruvananthapuram, New Delhi, Cuttack and Guwahati. The regional offices are assisted in the examination of films by advisory panels which include eminent educationists, art-critics, journalists, social workers, psychologists etc. The Board examines films for certification in accordance with the provisions contained in Cinematograph Act 1952, the Cinematograph (Certification) Rule 1983 and the guidelines issued by the Central Government in this regard. In 1992 the Board certified 836 Indian feature films. Out of these, 189 were Hindi films and 564 were certified from the four southern regional offices. During the same period the Board certified 80 foreign feature films and 895 Indian short films, 606 Indian video films and 643 foreign video films.

Film Certification Appellate Tribunal (FCAT) constituted in March 1984 hears appeals against the decisions of the Central Board of Film Certification. The headquarters of the Tribunal is at New Delhi.

FILMS DIVISION

Films Division is the largest national agency devoted to the production and distribution of documentaries and news magazines. The Division was set up

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in 1948 to revive the production of newsreel and documentary films. It produces news magazines, documentaries and 16mm featurettes for rural audience in regional languages. It also produces cartoon films and educational films for agriculture and defence ministries and family welfare and other departments of the Government of India.

The distribution outlets for these films are Doordarshan, theatrical circuits having a weekly audience of almost ten crore to twelve crore and non-theatrical circuits consisting of field publicity units of Central and state governments and other non-theatrical exhibition channels like educational institutions, industrial houses, social and cultural organisations and film societies etc. It is estimated that about five to six crore of rural audience is exposed to these films every week. The Division's films are also screened abroad through Indian embassies, television networks, government departments, educational, cultural and social organisations as well.

It makes films through in-house directions and also associates talent from the open market in some of its productions. During January to December 1992 this Division has produced a total of 101 documentary films and 28 news magazines. The Division releases prints of three documentary films and one news magazine alternately every week for public exhibition through cinema houses throughout the country. They are required to screen such films not exceeding 609.8 mts (2000 ft) under the compulsory exhibition scheme. Films Division has started releasing only colour films now *i.e.*400 colour prints instead of about 900 B/W films. The Division continues the production of 16mm rural-based featurettes in languages and dialects of southern and eastern regions of the country through its regional production centres at Bangalore and Calcutta. Some of the productions of regional centres have won national and international awards. The Division has a separate unit for making cartoon films including animation sequences for documentaries and news magazines. The newsreel units of the Division produces news magazine which covers important national and international events. The branch offices of the Films Division located throughout India have film libraries of 16mm prints of documentary films newsreel. Films Division also organises festival of its films in various parts of the country. The second Bombay International Festival for Documentary, Short and Animation Films was organised by Films Division in 1992.

NATIONAL FILM DEVELOPMENT CORPORATION

The National Film Development Corporation (NFDC) was established on 11 April 1980 with the amalgamation of the erstwhile Film Finance Corporation (FFC) with the Indian Motion Picture Export Corporation (IMPEC). The Corporation aims at bringing improvement in the quality of cinema in India and increasing its access. It undertakes several activities designed to achieve this purpose and as an adjunct to promote the cause of a healthy film movement in the country. NFDC promotes the concept of the low-budget

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film. The low-budget, yet high quality film is one of the possible answers to the financial problems of film-making being faced today in India.

The Corporation launched its programme of foreign co-productions with the highly successful film *Gandhi* directed by Sir Richard Attenborough, followed by *Salam Bombay* by Mira Nair and *Unni* another co-production. During 1992-93, two foreign co-productions were completed, *Miss Beaty's Children* by Pamela Rooks, an Indo-Italian venture and Ketan Mehata's *Maya Memsahab*. Although this was an Indo-British-French co-production, it has only been financed by NFDC and not co-produced. The Corporation also co-produced a seven-episode TV serial with M/s Technisonar, France. Under an agreement signed between NFDC and Doordarshan, good feature films and tele-films are being produced jointly with the objective of telecasting them on national and regional networks. These films will also be exploited in other circuits, both commercial and non-commercial within India and abroad. Upto December 1992, 21 films have been completed or are under production under this scheme.

NFDC undertakes production of films based on good scripts to be directed by well-known directors. Under this scheme initiated in 1980-81, films completed upto December 1992 are; *Tahader Katha* in Bengali by Buddhadeb Dasgupta; *Ek Hota Vidushak* in Marathi by Dr Jabbar Patel and *Durga* produced by NFDC on behalf of the Ministry of Health and Family Welfare which won the National Award for the best feature film on family welfare. The Corporation has also taken up the production of a feature film on Bharat Ratna, Dr Babasaheb Ambedkar on behalf of the Ministry of Welfare and the Maharashtra Government. NFDC produced film *Agantuk* by Satyajit Ray which won the National Award for Best Feature Film and Best Direction.

The Theatre Financing Scheme was formulated and put into execution by NFDC to ensure creation of additional seating capacity in the country and provide outlets for good cinema. Ninety-six theatres have already started functioning under the scheme as on 31 December 1992.

The Corporation presently imports about 35 to 45 films a year. Since its inception, it has imported around 500 films. There has been conscientious attempt to expose Indian audiences to a variety of films from different countries like USA, UK, Spain, France, Romania, Italy, New Zealand, Sweden, Czechoslovakia, Australia, Hungary, Poland, Germany, Canada, Japan, Hong Kong, Turkey, Bulgaria and Russia. Keeping in view the limited resources of the Corporation, greater stress is laid on import of good quality commercial family entertainers. Since April 1993 the import of films has been decanalised

The scheme to hold the Panorama Film Festivals at major centres of the country initiated in 1985-86 continues to be received very enthusiastically. Alongwith the Panorama Film Festivals, the Corporation also organises fairly sizeable number of retrospectives and other Mini Festivals etc, in collaboration with various Consulates and Directorate of Film Festivals.

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India exports films to over 100 countries. The Corporation participates in various International Film Festivals and sends delegates to film-markets to promote Indian cinema. It also plays host to a number of buyers from various countries.

NFDC started marketing good quality legal video cassettes to aspiring public through their distributors and over 250 titles were so far released on video. Keeping in view the charter of the Corporation in the promotion of cine literacy and spread of good cinema in India, the Corporation has been marketing video cassettes of Indian and foreign film classics and award-winning films.

To fight video piracy, NFDC in collaboration with the Indian film industry initiated the formation of an anti-piracy body, Indian Federation Against Copyright Theft (INFACT) which is registered as a company under the Companies Act.

NFDC Film Centre, Calcutta, provides production and post-production facilities consisting of 16mm Arrifex cameras with zoom and high-speed lenses and Nagra 4.21 recorders for synchronous shooting. Recording and re-recording theatre is provided with the latest sophisticated Magnatech high-speed electronic studio system for 16 mm and 35mm formats. For editing facilities, the Centre has got steen-back editing tables and Acmade Picsync equipment. The Sub-titling Centre at Bombay is a full-fledged unit with all technical facilities available under one roof. So far, the unit has sub-titled more than 1000 films, thereby helping in conserving foreign exchange to the tune of over Rs 400 lakh. The Centre has also taken up sub-titling for various agencies from Bangladesh, Sri Lanka and Iran etc. In addition to the film sub-titling, the Centre also provides sub-titling on U-matic video cassettes. High quality electronic sub-titling is available now on low-band as well as high-band with this Unit.

NFDC's Video Centre in Madras, with the world renowned rank Cintel Mark III and associated low-band and high-band U-matic VCRs, provides good quality film transfer facilities. A full-fledged sophisticated duplication set-up with 120 Slave VCRs brings out good quality video cassettes. The Centre provides facilities to film-makers for exploitation of their production abroad through the use of U-matic cassettes. The Corporation brings out an analytical trade magazine called "*Cinema in India*" as part of its developmental activities.

National Film Development Council set up a trust for the welfare of the cine artists with an initial donation of Rs 10,000 with the settlement of a long pending dispute with Sir Richard Attenborough over the transfer of 5 per cent profits from the film 'Gandhi' to the Cine Artists Welfare Fund of India. The Fund has now started functioning. Schemes for welfare of cine artists and their families have been worked out and over two hundred beneficiaries are now getting financial assistance on monthly basis from the Fund.

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DIRECTORATE OF FILM FESTIVALS

Directorate of Film Festivals was set up in 1973 under the Ministry of Information and Broadcasting, to help promote good cinema and Indian films in the country and abroad. The functions of the Directorate are to organise: (a) international film festivals; (b) national film festivals; (c) film weeks under cultural exchange programmes, and (d) participation in international film festivals abroad. It also gives away the National Film Awards and organises special film programmes.

The Directorate was brought under the National Film Development Corporation in July 1981 and in July 1988, it was again transferred to the Ministry of Information and Broadcasting.

The last festival, the 24th International Film Festival of India (IFFI'93) was held in New Delhi from 10 to 20 January, 1993. This was a non-competitive festival. In all, 175 feature and non-feature films from 39 countries (including India) were screened in the Festival. In all 474 film shows were held in 10 theatres in the capital.

NATIONAL FILM ARCHIVE OF INDIA

Established in February 1964 as a media unit of the Ministry of Information and Broadcasting, the primary objective of the National Film Archive of India (NFAI) is to acquire and preserve the heritage of national cinema and the best of world cinema. The Archive has made considerable progress in the preservation of films/audio/video material, documentation and research and dissemination of film culture in the country. As on 31 March 1993, the Archive's collection has 12,874 films, 20,685 books, 152 periodicals, 21,403 scripts, 1,33,273 press clippings, 7,282 pamphlets/folders, 97,647 stills, 1,858 disc records, 150 audio tapes, 983 video cassettes, 1,957 microfilms, 2,820 slides, 6,302 wall-posters, 42 micro-fische and 6,171 song booklets. Notable among its acquisitions are several early/silent/talkie films from India and abroad, as well as recent award winning films and representative works of the masters of world cinema. It has been acknowledged as one of the major film archives in the Asian region, on par with established archives in Europe and North America.

The Archive's "Film Circle" programme of weekly screening at Bombay, Bangalore, Calcutta, Tiruvanathapuram, Bhopal and Pune exposes interested local audience to the best films from India and abroad. To commemorate the platinum jubilee of Indian cinema, NFAI organised photo exhibitions depicting the evolution of cinema in the country at various centres. NFAI also organises film appreciation course at Pune every year to stimulate a serious interest in the systematic understanding of cinema as a medium of art and communication. In addition, the Archive conducts five to eight short courses of five to ten days duration in various parts of the country.

The Archive functions as the main repository for Indian and foreign research workers for viewing film classics in connection with their research

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projects. The Archives Distribution Library with a representative collection of Indian and foreign film classics cater to over 300 film societies and film study groups in educational institutions in the country. The Archive also sponsors research projects pertaining to the study of various aspects of the Indian cinema. It has helped NFAI in establishing fruitful contacts with film archives abroad and besides provides expert guidance on problems relating to film preservation, restoration, computerisation and retrieval of archival data. With headquarters at Pune, NFAI has at present three regional offices functioning at Bangalore, Calcutta and Thiruvananthapuram.

NATIONAL CENTRE OF FILMS FOR CHILDREN AND YOUNG PEOPLE

National Centre Of Films For Children And Young People (N'CYP), earlier known as Children's Film Society, India (CFSI), was established in 1955 to provide "value based" entertainment to the children through the medium of films and is engaged in production, acquisition, distribution and exhibition of children's films. In 1992 the scope of the organisation's activities was widened to include the 'young people' along with the children, leading to change in the organisation's name.

Since its inception, N'CYP has produced/acquired and distributed more than 225 feature films, featurettes and short animation and puppet films. While the organisation continues to distribute/exhibit its films through movie theatres as well as through the national TV network, a novel method of exhibition of films has been adopted by the organisation since last ten years i.e. to hold districtwise 'capsuled' programmes of eight to ten feature films lasting about a week. About 50 such 'festivals' were held during 1991-92 as well as in 1992-93 with a viewership of over 20 lakh each. A 20 per cent increase is contemplated in coming years.

N'CYP also conducts biennial 'International Festivals' of children's films. The seventh such festivals was held at Thiruvananthapuram and eighth is to be held at Udaipur in Rajasthan in November 1993. As many as 150 films from over 30 countries are expected to participate in the coming festival. The festival would include market section, thus facilitating sale of films at international level, and also a new section named Asian Panaroma which would cover some important films of Asia, as well as South Pacific regions.

In recent years N'CYP has been involved in producing/procuring programmes for children for telecast through the national network. The current such programme, dubbed version (Hindi) of animation serial 'JUNGLE BOOK' (character designer SADAHIKO SAKAMAKI), has achieved viewership of 71 per cent at the national level, thus claiming the top position.

In addition, to provide a fillip to the interest in animation films, the organisation had conceived and conducted two animation workshops for children at Bombay (from 23 May —2 June 1992) and at Udaipur (from 31

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October—7 November 1992). It is expected that this activity will continue over the years.

DIRECTORATE OF ADVERTISING AND VISUAL PUBLICITY

Directorate of Advertising and Visual Publicity (DAVP) is a multi-media agency of the Central Government. It is the advertising agency for all the departments and ministries (except Railways) of the Government of India. It also serves autonomous bodies and public sector undertakings.

DAVP adopts a comprehensive campaign approach to carry out its task. It offers a complete range of advertising and publicity services, advising the client departments on campaign themes, media planning, visualisation and implementation of the campaigns. It covers a wide range of communication media which include press advertising; printed publicity through posters, folders, booklets, stickers etc.; outdoor publicity through hoardings, bus panels, kiosks, wall paintings, cinema slides etc.; organising exhibitions on various social and development themes; production of radio and TV spots, short films, jingles and quickies. DAVP has also the facility of direct mass mailing. The computerised Mass Mailing Unit has some 15 lakh addresses covering 527 categories including *panchayats,* primary schools, individuals, institutions, MPs, MLAs, chief ministers, governors and other important functionaries. It has on its panel nearly 3,500 newspapers/ periodicals and issues annually about 17,000 advertisements (classified and display). The 35 Field Exhibition Units of DAVP conduct on an average 300-400 exhibitions in a year reaching nearly two crore people. The Printed Publicity Wing of DAVP brings out on an average 600-700 publications every year and the total print order runs to over two crore. The Outdoor Publicity Wing puts up messages not only in major cities, towns, but also in remote rural areas.The Audio Visual Wing annually produces over 3,200 radio spots and jingles in various languages, and over 560 TV spots/quickies. Apart from the headquarters at New Delhi, the Directorate has two regional offices—one at Bangalore and the other at Guwahati.

MULTI-MEDIA PUBLICITY

DAVP launches multi-media publicity campaigns to inform and educate the people on matters of immediate and long term interest as well as to motivate them to participate in the national programmes for social change and economic development. During 1992-93, major publicity campaigns were organised on important socio-economic themes such as unity, communal harmony, welfare of weaker sections of society, health and family welfare, prevention of drug abuse, environment protection, energy conservation, consumer protection, women and child development, AIDS, agriculture, rural development, public distribution system, new economic measures, etc.

The Directorate organised a multi-media campaign on the occasion of *Ardh Kumbh Mela* 1992 at Haridwar. Around two lakh copies of booklets, folders and pamphlets pertaining to different themes and the publication

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titled *'Ganga Seva - Bharat Seva*, printed specially for the occasion were widely distributed.

The Directorate had a big hand in organising necessary publicity for the 24th International Film Festival of India 1993, held in New Delhi from 10-20 Junuary 1993. It also launched a special multi-media publicity campaign on AIDS prevention.

DAVP has won the second prize of the 5th ARREN AWARDS FOR THE GREAT OUTDOOR 1992 in the category of Best Public Service Campaign for the entry *"Challo Padhayen Kuch Kar Dikhayen*" based on rural education.

OUTDOOR PUBLICITY

The Outdoor Publicity Division of the Directorate gave major thrust to propagate drug abuse and alcoholism, new economic policy, girl education, national integration and communal harmony, International Film Festival of India 1993, handicrafts, literacy, centenary celebrations of Dr B.R. Ambedkar, consumer protection, Quit India Movement, AGMARK, health and family welfare, energy conservation, customs and central excise, Army and Navy recruitment and income tax. Outdoor publicity media was also used during *Ardh Kumbh Mela* at Haridwar and *Simhasth Kumbh Mela* at Ujjain. Publicity material was also displayed at the Film Festivals of SAARC, Japan, Turkey, Sweden and Holland held in New Delhi.

PRINTED PUBLICITY

DAVP brings out printed publicity material in English, Hindi and regional languages. Some of the important booklets, folders, posters etc, brought out by the Directorate till January 1993 include 'A New Food Security System for the Poor', 'Tin Bigha Facts', 'Quit India Movement', 'Indian Panorama 1993', 'Income Tax', 'Eighth Five Year Plan', 'New Industrial Policy' and 'Drug Abuse' etc, and 20 important speeches of the Prime Minister delivered on different occasions including his speeches on 'Extending the Reach of Public Distribution System', 'Environment Protection'. '*Ram Janmabhoomi - Babri Masjid* Dispute' etc.

PRESS ADVERTISEMENTS

The Directorate issued about 13,865 press advertisements (13,068 classified and 797 display advertisements) during April 1992-January 1993 to 3,687 newspapers and periodicals on income-tax, health and family welfare, AIDS, immunisation, drug abuse and prohibition, national integration and communal harmony, national handloom export, environmental protection, customs and central excise, handicrafts and textiles, National Savings Organisation and World Population Day. Supplements were also brought out on non-conventional energy sources, Central Excise Day, ESI Scheme-42nd Year of Social Security, World Population Day and national child survival and safe mother-hood programme. During the period contracts with 3,097 newspapers and periodicals were renewed and 273 were empanelled for all India release of advertisements.

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AUDIO VISUAL PUBLICITY

The Audio Visual Cell of DAVP gave extensive publicity to the new economic policy, income tax, non-conventional energy sources, women and child development, consumer protection, rural development, health and family welfare, environment protection and Quit India Movement. During 1992-93, audio and video/quickies were produced and broadcast/telecast on different themes *viz.* spacing, early marriage, World Population Day, Mala-D, small family norm. Two quickie based serials *'Sanvarti Rahen'* and *'Hamara Sapna'* were produced and telecast. A radio sponsored programme, *'Haseem Lamhe'*was produced and broadcast on 29 CBS channels. Four audio programmes for van publicity and a programme on 10 minutes for World Population Day were also produced. The Audio Visual Cell registered as many as 58, 900 broadcasts and 825 telecasts were registered.

MASS MAILING WING

The Mass Mailing Wing of the Directorate distributed over 2.25 crore copies till January 1993, of printed publicity material through its distribution centre headquarters in New Delhi and regional distribution centres at Madras and Calcutta. The wing has a mailing list comprising over 15 lakh addresses spread over 530 categories like primary/middle schools, post offices, rural banks, social organisations, panchayats, educational and cultural organisations etc.

EXHIBITIONS

The Exhibition Wing of DAVP through its network of 35 Field Exhibition Units including seven mobile vans publicised various socio-economic messages of the government, supported by film shows and audio programmes. During 1992-93 several exhibitions were organised which included exhibitions titled 'India Today', 'Girl Child', 'Quit India Movement', *'Ek Rashtra Ek Pran,* 'Towards a Better Future', *'Ganga'*, 'World Polulation', *'Ek, Gaon Ki Or'*, 'Dr. B.R. Ambedkar' and 'India Marches Ahead' all over the country. The Directorate organised around 380 exhibitions spread over approximately 2, 200 exhibition days and also participated in more than 30 exhibitions which include different film festivals organised by Directorate of Film Festivals.

Three exhibitions titled *'Ganga'*, 'One Country One People' and 'Towards a Better Future' were organised on the occasion of *Ardh Kumbh Mela* at Hariduwar and *Simsth Kumbh Mela* at Ujjain. On the occasion of the death anniversary of the late Prime Minister, Shri Rajiv Gandhi, an exhibition was organised at Parliament House (Annexe), New Delhi titled 'India and the World'.

DIRECTORATE OF FIELD PUBLICITY

Directorate of Field Publicity came into being in 1953, originally as the Five Year Publicity Organisation, with 32 field publicity units and four regional offices. The objective of setting up this unit was to secure, through country-

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wide dissemination of information pertaining to plans, policies and programmes of the Government particularly in the countryside and remote areas, people's willing and enthusiastic cooperation in the gigantic task of nation building. The organisation worked directly under the administrative control of the Ministry of Information and Broadcasting. As gradually its area of operations extended beyond the Five Year Plans the organisation was renamed as the Directorate of Field Publicity in 1959. Units for border publicity as also for health and family welfare came up in 1965-66 and 1967-68 respectively. By 1982 the Organisation had attained its present strength of 257 field publicity units and 22 regional offices.

DFP, the only interpersonal media of the I and B Ministry which acts as a two-way bridge between the people and the Government, has been using since its inception various communication formats such as film shows, live song and drama programmes, photo exhibitions, special programmes and contests and interpersonal communication including seminars, symposia, elocution contests and group discussions for purveying its myriad messages to the people at large. The organisation is constantly striving, both technologically and strategy-wise, to update its operations in consonance with its aims and objectives. These aims and objectives, in brief, are: (a) to project the policies and programmes of the Government by bringing its men and meterial face to face with the people and to inform them about the plans and schemes formulated for their benefit; (b) to educate people about the fundamental national values like democracy, socialism and secularism and to reinforce their faith in them; (c) to establish rapport with the people at the grassroots level for their active participation in the developmental activities as also to mobilise public opinion in favour of implementation of welfare and developmental programmes; and (d) to gather people's reactions to the programmes and policies of the Government and their implementation down to the village level and to report back the same for taking appropriate action and applying correctives by the Government.

During April 1 1992 to March 1993, 55,776 film shows, 36,343 photo exhibitions, 7,904 song and drama programmes and 60, 153 group discussions were organised or arranged by the Directorate.

SONG AND DRAMA DIVISION

Song and Drama Division was set up in 1954 as a unit of All India Radio and was given the status of an independent media unit in 1960 as a subordinate office of the Ministry of Information and Broadcasting. It was established for tapping the resourceful live entertainment media, particularly the traditional and the folk media for plan publicity. It has the advantage of instant rapport with the people and the flexibility in its forms to incorporate new ideas effectively. It utilises a wide range of stage-forms such as drama, folk and traditional plays, dance-drama, folk recitals and puppet shows besides the sound and light medium to focus the attention of the audience on important

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aspects of the country's life and development's in different fields. On an average the Division puts up about 36, 000 programmes all over the country every year.

Border Publicity Scheme was introduced in the Song and Drama Division in 1966 with the objective to boost up morale of the people along the sensitive international boundaries and keep them bound to the country's unity and integrity. In 1967 Armed Forces Entertainment Wing was set up with a view to entertain the Jawans posted in forward areas and boost their morale in hazardous conditions where no other means of entertinment was available. A total number of nine troupes were formed comprising 23 staff artists and one manager each.

A new medium, an amalgam of sound and light and live action was adopted by the Song and Drama Division in 1976 after about seven years of successful trial.

In 1981, the Division set up a tribal centre at Ranchi for participation of tribals in the programme activities for the welfare of the tribal people. The objective was to harness the tribal for entertainment and convert it into a source of income for the otherwise backward tribals. The scheme covers Bihar, Orissa and Madhya Pradesh. With all this expansion at present this Division has 43 departmental troupes. There are about 600 private parties registered with the Division.

The Division has eight regional centres at Bhopal, Calcutta, Chandigarh, Delhi, Guwahati, Lucknow, Madras and Pune. The Sound and Light Unit is at headquarters Delhi, Bangalore and tribal centre at Ranchi. It has 9 sub-centres located at Bhubneshwar, Hyderabad, Patna, Imphal, Jodhpur, Darbhanga, Nainital, Shimla and Srinagar.

The Song and Drama Division puts up field programmes in co-ordination with the sister media units of the Ministy of Information and Broadcasting, Central state governments departments and voluntary organisations. The Division works in close co-ordination with the ministries of Health and Family Welfare, Defence and Welfare as well.

TRAINING

Training in mass communication is available in a number of institutions in the country. There are twenty five universities which offer degree/diploma certificate courses in the field.

STAFF TRAINING INSTITUTE (PROGRAMME)

Staff Training Institute (Programme) of All India Radio, New Delhi imparts in-house training to programme and administrative personnel and guest trainees from foreign broadcasting organisations. Special efforts are made to train programmers in the planning production and management techniques. On an average 36 courses of various kinds are conducted in a year in order to update and enrich the knowledge and skill of the programme personnel. The Institute has six regional training centres at Hyderabad, Shillong,

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Lucknow, Ahmadabad, Cuttack and Thiruvananthapuram. The regional training centres cater to the training needs of the announcers, transmission executives, production staff and also programme executives.

STAFF TRAINING INSTITUTE (TECHNICAL)

Staff Training Institute (Technical) has the responsibility of imparting in-service training to the engineers of AIR and Doordarshan. The Institute conducts basic induction courses for the new entrants and also arranges refresher courses and specialised task/equipment-oriented courses for various categories of staff to keep them abreast with the up-to-date technology implemented in AIR and Doordarshan networks. Trainees from several countries are accommodated in the above courses under SCAAP, ITEC, Colombo Plan and other technical cooperation schemes. In addition to various inside courses for AIR and Doordarshan Engineers, it conducts several workshops at different stations/*Kendras*. It also arranges outside training at NITIE, M/s Kirloskar, Pune, L & T Pune etc. During last year it has conducted/arranged over 100 courses training about 1500 AIR and Doordarshan engineers.

FILM AND TELEVISION INSTITUTE OF INDIA

Film and Television Institute of India (FTII) located at Pune imparts technical training in the art of film making and also provides in-service training to the employees of Doordarshan.

The Institute conducts three-year specialisation courses in (1) Motion Picture Photography, (2) Film Direction and (3) Sound Recording and Sound Engineering with a basic one year of integrated training. The course in Film Editing is of two year duration with one year of integrated training. During the academic year 1992-93, there were 100 students on the rolls of Film Wing. Television training is imparted in (1) TV Programme Production, (2) Studio Technical Operation, (3) TV Films, and (4) TV Graphics and Design. Short term courses in special areas of TV Production are also organised. Sixty five candidates participated in the 17th Film Appreciation course held from 25 May to 27 June 1992

The Institute regularly enters the student films in various national and international film festivals, with a view to giving exposure to students'work outside the Institute and also country.

INDIAN INSTITUTE OF MASS COMMUNICATION

Indian Institute of Mass Communication (IIMC) was set up in August 1965 as a centre for advanced study in mass communication. It was registered in January 1966 under the Societies Registration Act (XXI) of 1860. It is an autonomous body deriving funds from the Government of India through the Ministry of Information and Broadcasting. It is managed by a society which is reconstituted every two years.

The Institute conducts two regular training courses and four regular diploma courses. They are as follows (i) Orientation Course for officers of

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the Indian Information Service; (2) Broadcast Journalism Course for personnel of AIR and Doordarshan; (3) Post-graduate Diploma Course in Jouirnalism; (4) Post-graduate Diploma Course in Advertising and Public Relations; (5) Post-graduate Diploma Course in Journalism (Hindi) and (6) Diploma Course in News Agency Journalism for Non-aligned countries. In addition to the Indian students, candidates sponsored under various Government of India technical assistance schemes are also admitted to the Post-graduate Diploma Course in Journalism. The Diploma Course in News Agency Journalism is essentially for working journalists from Non-aligned countries, but nominees of the two national news agencies are also admitted to this course. It also conducts a number of short-term courses in areas of special interest.

The Institute has a well-equipped library and documentation unit. Audio-visual facilities have been developed to meet specific training needs. A laboratory press caters to the training and publication needs of the Institute. The Institute brings out a quarterly journal *Communicator* in English and *Sanchar Madhyam* in Hindi, besides other publications.

The Research and Evaluation Departments contribute towards the understanding of the communication process, its practices, and their wider social, economic and political implications within the Indian context.

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12 Basic Economic Data

INDIA is rich in natural resources and manpower. These resources have, however, not been exploited fully and are capable of greater utilisation. Indian economy is still predominantly agricultural. Agriculture has acquired a remarkable resilience in the last decade. About one-third of the national income is derived from agriculture and allied activities employing about two-third of the working force. Since 1947, the national endeavour has been to diversify the economy.

NATIONAL AND PER CAPITA INCOMES

National income is defined as the sum of incomes, accruing of factors of production supplied by normal residents of the country before deduction of direct taxes. It is identically equal to net national product at factor cost. Table 12.1 gives estimates of national and per capita incomes at current and 1980-81 prices, while table 12.2 gives national product and related aggregates at current prices. Table 12.3 gives performance of the public sector and 12.4 gives private final consumption expenditure, net domestic saving and capital formation since 1980-81.

CATEGORIES OF WORKERS

For 1991 census, population was divided into main workers (classified into nine broad industrial categories), marginal workers and non-workers. Data released so far gives total workers sub-divided into main workers and marginal workers and the distribution of main workers into four broad categories of workers *viz.* cultivators, agricultural labourers, household industry workers and other workers in rural and urban areas, as on 1 March 1991. These are presented in table 12.5. Employment in the organised sector has been shown in table 12.6

UNEMPLOYMENT

Number of persons on the live registers of the employment exchanges gives an idea of the trend of unemployment subject to certain limitations. Employment exchanges cover mainly urban areas. Not all the unemployed register their names in exchanges. Further some already employed, get registered for

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TABLE 12.1 NATIONAL AND PER CAPITA INCOME AT FACTOR COST

(Rs crore)

Item	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86[1]	1986-87[1]	1987-88[1]	1988-89[2]	1989-90	1990-91[2]	1991-92
Net National Product at Factor Cost (Rs crore) at current prices	1,10,685	1,28,797	1,41,875	1,66,550	1,85,018	2,06,133	2,28,402	2,58,891	3,10,100	3,54,526	4,13,943	4,73,246
at 1980-81 price	1,10,685	1,17,140	1,19,704	1,29,392	1,33,808	1,39,025	1,44,242	1,49,787	1,66,232	1,75,400	1,84,460	1,86,135
Per Capita Net National Product (Rupees) at current Prices	1,630	1,861	2,004	2,304	2,504	2,730	2,962	3,285	3,852	4,313	4,934	5,529
at 1980-81 prices	1,630	1,693	1,691	1,790	1,841	1,841	1,871	1,901	2,065	2,134	2,199	2,175
Index number of Net National Product with 1980-81 as base at current prices	100.0	116.4	128.2	150.5	167.2	186.2	206.4	233.8	278.9	317.9	376.2	
at 1980-81 prices	100.0	105.8	108.1	116.9	120.9	125.6	130.3	135.2	150.1	159.2	168.4	
Index number of per capita Net National Product with 1980-81 as base at current prices	100.0	114.2	122.9	141.3	153.8	167.7	181.7	201.8	235.8	263.3	305.2	
at 1980-81 prices	100.0	103.9	103.7	109.8	111.2	113.1	114.8	116.7	126.9	131.8	136.6	
Gross National Product at factor cost (Rs crore) at current prices	1,22,772	1,43,25.6	1,58,761	1,85,779	2,071,09	2,32,370	2,58,225	2,92,232	3,49,021	4,00,096	4,65,827	5,35,055
at 1980-81 prices	1,22,772	1,29,928	1,33,299	1,43,861	1,49,256	1,55,365	1,61,535	1,68,121	1,85,708	1,96,132	2,06,375	2,09,306
Index number of Gross National product with 1980-81 as base at current prices	100.0	116.7	129.3	151.3	168.7	189.3	210.3	238.0	283.1	323.7	381.5	
at 1980-81 prices	100.0	105.8	108.6	117.2	121.6	126.5	131.6	136.8	151.2	160.4	169.7	

1. Provisional estimates.
2. Quick estimates

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TABLE 12.2 NATIONAL PRODUCT AND RELATED AGGREGATES
(at current prices)

(Rs Crore)

Item	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86[1]	1986-87[1]	1987-88[1]	1988-89[1]	1989-90[1]	1990-91[2]	1991-92
a) Gross National Product at Factor cost	1,22,772	1,43,256	1,58,701	1,85,779	2,07,109	2,32,370	2,58,225	2,92,232	3,44.021	4,01,196	4,65,827	5,35,055
b) Add Indirect Taxes less subsidies	13,586	16,544	18,737	20,866	22,810	28,444	32,919	38,350	43,076	48,159	58,205	67,612
c) Gross National Product at market prices (a+b)	1,36,358	1,59,800	1,77,498	2,06,645	2,29,919	2,60,814	2,91,144	3,30,582	3,87,097	4,49,355	5,24,032	6,02,667
d) Less Consumption of Fixed Capital	12,087	14,459	16,886	19,229	22,091	26,237	29,823	33,341	38,921	45,570	51,884	61,809
e) Net National Product at market prices (c-d)	1,24,271	1,45,341	1,60,612	1,87,416	2,07,828	2,34,577	2,61,321	2,97,241	3,53,176	4,02,685	4,72,148	5,40,858
f) Less Net Factor Income from abroad	(+) 345	(+) 40	(-) 634	(-) 944	(-) 1,424	(-) 1,429	(-) 1,805	(-) 2,619	(-) 4,496	(-) 5,731	(-) 6,833	(-) 6,833
g) Net Domestic Product at market prices (e-b)	1,23,926	1,45,301	1,61,246	1,88,360	2,09,252	2,36,006	2,63,126	2,99,860	3,57,672	4,08,416	4,78,981	5,47,691
(h) Net Domestic Product at Factor cost	1,10,340	1,28,757	1,42,509	1,67,494	1,86,442	2,07,562	2,30,207	2,61,510	3,14,596	3,60,257	4,20,776	4,80,079
i) Less income from entrepreneurship and property accruing to Govt's Administrative Departments	554	687	1,425	1,154	1,937	2,441	3,707	4,071	4,064	4,758	4,367	8,738
j) Less saving of non-departmental enterprises	(-) 820	(-) 46	504	471	943	1,254	1,548	2,076	3,284	3,903	2,386	363
k) Income from Domestic Product accruing to private sector) (h-i-j)	1,10,606	1,28,116	1,40,580	1,65,869	1,83,562	2,03,867	2,24,952	2,55,363	3,07,243	3,50,596	4,14,023	4,70,978
(l) Add National Debt Interest	1,524	1,911	2,713	3,739	5,008	6,115	7,592	9,678	12,206	15,783	19,973	–
(m) Add Net Factor Income from abroad	(+) 345	(+) 40	(-) 634	(-) 944	(-) 1,424	(-) 1,429	(-) 1,805	(-) 2,619	(-) 4,496	(-) 5,731	(-) 6,833	(-) 6,833

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(Rs. crore)

Item	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86[1]	1986-87[1]	1987-88[1]	1988-89[1]	1989-90[1]	1990-91[2]	1991-92
(n) Add current transfers from Government's Administrative Depart ments.	2,835	3,370	4,008	4,040	5,733	6,991	8,697	9,973	12,077	14,048	15,717	17,920
o) Add other current transfers from the rest of the world (net)	2,257	2,221	2,527	2,774	3,101	2,821	2,970	3,499	3,841	3,798	3,600	3,600
p) Private Income (k+l+m+n+o)	1,17,567	1,35,658	1,49,194	1,76,078	1,95,980	2,18,368	2,42,412	2,75,894	3,30,482	3,79,378	4,46,995	5,13,021
q) Less saving of Private Corporate Sector, net of retained earnings of Foreign Companies	681	495	568	390	761	1,387	593	798	2,687	4,653	5,681	5,758
r) Less Corporation Tax	1,378	1,970	2,185	2,493	2,556	2,805	3,100	3,133	4,107	4,729	5,335	7,300
s)Personal Income (p-q-r)	1,15,605	1,33,193	1,46,441	1,73,195	1,92,673	2,11,116	2,38,054	2,71,663	3,386	9,496	5,979	4,99,963
t) Less Direct Taxes paid by house-hold	2,197	2,491	2,650	2,862	3,250	3,709	4,168	4,568	5,989	7,159	7,896	9,759
u) Less Miscellaneous receipts of Government's Administrative Departments	303	389	479	560	900	1,267	1,183	1,202	1,642	1,971	2,104	2,540
v) Personal Disposable income (s-t-u)	1,13,105	1,36,313	1,43,312	1,69,827	1,88,523	2,09,140	2,33,308	2,65,893	3,15,757	3,60,866	72,479	4,87,614

Note: Available data does not permit separation of fees, fines, etc. paid by producers and to that extent Personal Disposable Income is under estimate.

1. Provisional estimates
2. Quick Estimates - estimates for all the aggregates not available.

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TABLE 12.3 PERFORMANCE OF PUBLIC SECTOR (Rs Crore)

Item	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92
	at current prices											
1. Gross Domestic Product	1,22,427	1,43,216	1,59,395	1,86,723	2,08,533	2,33,799	2,60,030	2,94,851	3,53,517	4,05,827	4,72,660	5,41,888
1.1 public	24,171	29,857	36,240	42,241	49,147	58,326	69,036	79,479	94,111	1,09,259	1,23,722	1,45,674
1.2 private	98,256	1,13,359	1,23,155	1,44,482	1,59,386	1,75,473	1,90,994	2,15,372	2,59,406	2,96,568	3,48,938	3,96,214
2. Gross Domestic Saving	28,786	33,478	34,068	38,971	42,114	49,655	57,048	71,712	86,665	1,11,525	1,25,109	1,48,039
2.1 public	4,654	7,254	7,822	6,781	6,526	8,457	8,002	7,223	8,101	7,347	5,591	10,176
2.2 private	24,132	26,224	26,246	32,190	35,588	41,198	49, 046	64,489	78,564	1,04,178	1,19,518	1,37,863
3. Gross Domestic Capital Formation Unadjusted	28,453	40,013	40,784	43,061	48,788	62,621	71,443	79,025	1,01,328	1,19,081	1,40,516	1,46,420
3.1 public	11,767	16,781	20,100	20,381	24,915	30, 874	35,415	35,087	42,183	48,637	55,721	57,949
3.2 private	16,686	23,232	20,684	22680	22,873	31,747	36,028	43,938	59,145	70,444	84,795	88,471
4. Final Consumption	1,12,376	1,29,120	1,43,446	1,68,089	1,86,442	2,06,932	2,34,623	2,64,904	3,06,324	3,45,929	3,97,374	4,58,965
4.1 public	13,084	15,355	18,272	21,141	24,352	29,174	34,625	40,843	47,331	54,203	61,537	69,547
4.2 private	99,292	1,13,765	1,25,174	1,46,948	1,62,090	1,77,758	1,99,998	2,24,061	2,58,993	2,91,726	3,35,837	3,89,418
Percentage Share of Public Sector												
1. Gross Domestic Product	19.7	20.8	22.7	22.6	23.6	24.9	26.5	27.0	26.6	26.9	26.2	26.9
2. Gross Domestic Saving	16.2	21.7	23.0	17.4	15.5	17.0	14.0	10.1	9.3	6.6	4.5	6.9
3. Gross Domestic Capital formation	41.4	41.9	49.3	47.3	51.1	49.3	49.6	44.4	41.6	40.8	39.7	39.6
4. Final consumption expenditure	11.6	11.9	12.7	12.6	13.1	14.1	14.8	15.4	15.5	15.7	15.5	15.2

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'TABLE 12.4 PRIVATE CONSUMPTION, SAVING AND CAPITAL FORMATION

Year	Private final consumption Expenditure in domestic market (Rs crore)		Per capita private final consumption expenditure in domestic market (Rs crore)		Net domestic saving (Rs crore)	Rate of saving (per cent)	New domestic capital (Rs crore)		Rate of Capital formation (per cent)
	At current prices	At 1980-81 prices	At current prices	At 1980-81 prices	At current prices	At current prices	At current prices	At 1980-81 prices	At current prices
1980-81	99,083	99,083	1,459	1,459	16,686	13.5	18,780	18,780	15.2
1981-82	1,13,456	1,03,574	1,635	1,492	18,998	13.1	21,609	19,449	14.9
1982-83	1,24,691	1,06,604	1,759	1,504	17,555	10.9	20,121	16,935	12.5
1983-84	1,46,084	1,14,606	2,018	1,583	21,209	11.3	23,726	17,646	12.6
1984-85	1,61,041	1,19,071	2,179	1,611	21,057	10.1	24,349	16,198	11.7
1985-86	1,77,758	1,24,054	2,334	1,643	23,418	7.9	29;652	19.020	12.6
1986-87	1,99,998	1,30,262	2,594	1,690	27,225	10.3	33,580	17,967	12.8
1987-88	2,24,061	1,35,129	2,843	1,715	38,371	12.3	45,196	23,484	15.1
1988-89	2,58,993	1,43,468	3,217	1,782	47,744	13.3	60,048	30,416	16.5
1989-90	2,91,726	1,50,612	3,544	1,832	65,955	16.1	78,234	33,475	19.2
1990-91[1]	3,35,837	1,57,385	4,003	1,876	73,225	15.3	87,909	36,275	18.3
1991-92[2]	3,89,418	1,61,863	4,549	1,891	86,230	15.7	93,598	29,883	17.1

1. Provisional
2. Quick Estimates

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TABLE 12.5 POPULATION BY CATEGORY OF WORKERS

(In crore)

	Rural	Urban	Total
1991 Census			
Total Population	63.13	21.53	83.66
Total workers[1]	24.93	6.56	31.49
Marginal workers[2]	2.77	0.17	2.95
Main workers	22.16	6.38	28.54
(i) Cultivators	10.74	0.32	11.06
(ii) Agricultural labourers	7.04	0.42	7.46
(iii) Household industry workers	0.68	0.36	1.04
(iv) Other workers	3.70	5.28	8.98

P. Provisional

Notes: 1. The figures exclude Jammu and Kashmir where the 1991 census has not been held.
2. Figures may not tally due to rounding off.

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TABLE 12.6 EMPLOYMENT IN ORGANISED SECTOR

(In lakh)

	March 1976	March 1977	March 1978	March 1979	March 1980	March 1981	March 1982	March 1983	March 1984	March 1985	March 1986	March 1987	March 1988	March 1989[P]
Public Sector														
Central Government	30.47	30.82	30.96	31.34	31.78	31.95	32.49	32.66	33.11	33.29	33.46	33.50	33.8	33.89
State Government	48.97	50.20	51.60	53.09	54.78	56.76	58.53	60.38	61.54	62.80	64.73	66.66	67.8	68.90
Quasi Government	33.92	36.75	39.29	41.70	43.43	45.76	48.12	50.40	52.74	54.97	56.79	57.95	57.95	59.48
Local Bodies	19.85	19.89	20.15	20.63	20.80	20.37	20.33	21.11	21.30	21.64	21.90	22.14	22.11	22.38
Total	133.22	137.66	142.00	146.76	150.78	154.84	159.46	164.56	168.69	172.69	176.83	180.25	183.20	185.16
Private Sector (non-agriculture)														
Larger establishments (employing 25 or more workers)	61.13	61.37	63.22	64.65	64.84	66.00	67.33	66.29	65.26	24.79	65.47	65.32	65.44	66.06
Smaller establishments (employing 10 to 24 workers)	7.31	7.30	7.21	7.42	7.43	7.95	8.14	8.24	8.19	8.31	8.25	8.31	8.47	8.63
Total	68.44	68.67	70.43	72.08	72.27	73.95	75.47	75.52	73.45	73.09	73.73	73.63	73.91	74.70
Grand Total	201.65	206.34	212.43	218.84	223.05	228.79	234.93	210.08	242.14	245.78	250.56	253.88	257.12	259.86

P. Provisional

Note: In some cases totally may not tally due to rounding off.

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TABLE 12.7 REGISTRATIONS VACANCIES, PLACEMENTS AND JOB-SEEKERS ON THE LIVE REGISTER

Year	Number of Employment exchanges[1]	Registrations	Vacancies notified	Placements	Live Register	Percentage increase in Live Register over previous year
	(lakh)					
1981	663	62.77	8.97	5.04	178.38	10.1
1982	692	58.63	8.20	4.73	197.53	10.7
1983	726	67.56	8.26	4.86	219.53	11.1
1984	745	62.20	7.08	4.07	235.47	7.3
1985	800	58.21	6.75	3.88	262.70	11.6
1986	821	55.35	6.23	3.51	301.31	14.7
1987	835	60.12	6.01	3.34	302.47	0.4
1988	840	59.63	5.43	3.28	300.50	-07
1989	849	65.76	6.00	2.89	327.76	9.1
1990	851	65.41	4.91	2.64	346.32	5.7
1991	854	62.36	4.59	2.53	363.00	4.8

Note: Total may not tally due to rounding off.

1. Including University Employment Information and Guidance Bureaux.

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better employment. Number of job-seekers on the live registers of employment exchanges increased from 178.38 lakh as on 31 December 1981 to 363 lakh on 31 December 1991. Table 12.7 gives registrations, vacancies, placements and job-seekers on the 'live register' for the period 1981-90.

NATIONAL SAMPLE SURVEY ORGANISATION

National Sample Survey (NSS) was set up in 1950 with a programme of conducting large-scale surveys to provide data for estimation of national income and related aggregates especially relating to unorganised sector of the economy and for planning and policy formulation. Today, it is a major fact-finding body and occupies a unique position in the nation's statistical system. It carries out annually socio-economic surveys covering various facets of population. It also undertakes field work of Annual Survey of Industries and carries out sample checks of area and yield of crops to improve quality of estimation of agricultural production prepared by the states, besides updating the urban frame work for selection of samples in urban area. Its personnel strength is now about 6,000 in 170 offices is spread over throughout the country.

It was reorganised in 1970 by bringing together all aspects of survey work into a single unified agency known as National Sample Survey Organisation (NSSO) under the Department of Statistics. The activities of NSSO are guided by a Governing Council with requisite independence and autonomy in the matter of collection , processing and publication of data. Besides the Chairman, the Council comprises five academicians, six data users in the Central ministries and state governments and six functionaries of the Department of Statistics. It is headed by the Chief Executive Officer, who is also the member-secretary of the Council. NSSO has four functional divisions, namely; (i) Survey Design and Research Division (ii) Field Operations Division (iii) Data Processing Division and (iv) Coordination and Publication Division. Each division is under the charge of a Director.

The subject coverage of the socio-economic surveys conforms to a well-defined cycle of the surveys extending over a period of ten years. Survey on consumer expenditure, employment and unemployment, manufacturing establishments and enterprises and trading establishments and enterprises in the unorganised sector are to be repeated once in five years, while subjects like land-holdings, livestock holdings, debt and investment are to be covered once in ten years. Thus, out of a cycle of ten years, pre-assigned subjects are allotted for seven years while three years are kept as 'open rounds' (two full-year rounds and two half-year rounds) to cover special topics of current interest to meet the demand of data users. Integrated with the main topics of a round, annual survey on consumer expenditure was reintroduced from 42nd round (July 1986 - June 1987) with a relatively smaller size of one-fifth of the usual quinquennial round during the intervening period between two quinquennial rounds on the subject. From 45th round (July 1989 - June 1990) it was decided to extend the scope of annual survey to cover employment - unemployment as well.

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National Sample Survey Organisation undertakes integrated surveys covering multiple subjects in its each round usually of one year duration. The centre sample covers roughly 9,000 villages and 5,000 urban blocks as first stage unit from which a sample of about 1.5 lakh households is selected for each annual round. The state governments also participate in each round on matching basis. Besides socio-economic surveys, following surveys are also conducted by NSSO:

169053

ANNUAL SURVEY ON INDUSTRIES

This is being conducted under the statutory provisions of the Collection of Statistics Act, 1953, (Central Rules, 1959) covering all factories registered under Section 2 m (i) and 2 m (ii) of the Factories Act, 1948, electricity undertakings registered with the Central Electricity Authority and *bidi* and cigar units registered under Bidi and Cigar Workers (Conditions of Employment) Act, 1966.

The current survey with net allotment of 75,332 factories started in July 1992 (with reference period as 1991-92), of which, survey of 17,685 factories has been completed upto December 1992.

AGRICULTURAL STATISTICS

The role of NSSO in agricultural statistics is to provide technical guidance to states for conducting crop estimation surveys and to keep continuous watch on quality of crop statistics collected by the state authorities. Thus, under the scheme "Improvement of Crop Statistics (73-74)" sample checks of primary field work relating to about 5,000 villages and supervision of 15,000 crop cutting experiments are undertaken in every agriculture year.

PRICE COLLECTION

Prices are collected for 603 villages for construction of revised series of price index numbers for agriculture rural labour, prices of specific items of consumption of middle class families of urban non-manual employees and data on house rent, etc., are collected for 70 centres spread over 59 towns. It is used for construction of consumer price index numbers for urban non-manual employees.

URBAN FRAME SURVEY (UFS)

For conducting sample surveys, the frame in urban sector is updated on a continuing basis once in five years since its inception in 1972 by preparing national maps for each Investigator Unit containing boundary particulars and population of a number of urban blocks. The fourth phase (1987-92) of UFS was taken up in July 1987 and 2.7 lakh blocks including about 15,900 blocks of newly declared town of 1991 census were updated by the end of December 1992. Another 19,300 urban blocks are likely to be formed upto March 1993. The fifth phase of UFS (1992-97) covering 4,126 towns has

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started in July 1992 and out of a target of 65,164 blocks for first year (1992-93) 5,186 blocks were updated upto December 1992.

POSITION OF SOME OF THE RECENT ROUNDS

(a) The results of 46th round (July 1990-June 1991) relating to wholesale and retail trade (non-directory trading establishments and own-account trading establishments excluding hotels and restaurants) are in advance stage of data processing. (b) The field work of 47th round (July-December 1991) on disability, literacy and culture was completed in December 1991. A report giving key results on literacy based on manual tabulation has been prepared and three reports (i) disabled persons (ii) developmental milestone of children (iii) village facilities based on NSS 47th round are expected to be prepared. (c) The field work of 48th round relating to land holdings, livestock holdings and debt and investment concluded in January 1993 and data collected is being processed. (d) The 49th round relating to housing condition and migration with special emphasis on slum dwellers commenced in January 1993 and will continue upto June 1993. (e) The 50th round (July 1993 - June 1994) is proposed to be devoted to the survey on employment, unemployment and consumer expenditure.

PUBLICATION OF SURVEY RESULTS

Survey results are brought out in the form of reports. Nearly 250 reports are available in printed form. Besides, 120 reports are in mimeographed form which are on the subjects of enquiries covered upto 47th round (July - December 1991). NSSO started a quarterly journal '*Sarvekshana*' from July 1977. It presents most of the results of NSSO as and when they are ready for publication. Analytical articles based on results previously published are also included in the journal.

PRICES

The new series of index numbers of wholesale prices (base 1981-82 = 100) was introduced in July 1989. This series has 447 distinct commodities as against 360 commodities in the old series (base 1970-71 = 100). The number of price quotations has also increased from 1,295 in the earlier series to 2,371 in the new series.

Table 12.8 gives annual index numbers of wholesale prices (1981-82 = 100) for the period 1982-83 to 1991-92 for all commodities and for selected groups/sub-groups of three major groups namely: (i) primary articles (ii) fuel, power, light and lubricants and (iii) manufactured products.

CONSUMER PRICES

Tables 12.9 and 12.10 give consumer price index numbers for industrial workers and for urban non-manual employees respectively for the period 1970-71 to 1991-92 at the all India level and some selected centres.

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TABLE 12.8 INDEX NUMBER OF WHOLESALE PRICES
(Base 1981-82 - 100)

	Major Group/Groups/ Sub Groups	Weight	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92
I	**Primary Articles**	32.295	106.7	118.2	125.5	125.7	137.1	152.6	160.1	163.6	184.9	218.3
	Food Articles	17.386	111.1	126.5	131.8	134.1	147.8	161.1	177.1	179.3	200.6	241.1
	Non-Food Articles	10.081	100.8	112.4	124.6	120.4	134.1	163.0	160.2	166.0	194.2	229.2
	Fibres	1.791	92.0	109.1	144.7	109.3	96.7	136.1	149.7	165.9	174.4	242.1
	Oilseeds	3.861	97.7	114.4	120.5	110.1	137.5	179.1	151.3	151.4	194.9	234.7
	Minerals	4.828	103.3	100.4	105.1	106.5	104.2	100.5	98.5	102.2	109.0	113.5
II	**Fuel, Power, Light and Lubricants**	10.663	106.5	112.5	117.3	129.8	138.6	143.3	151.2	156.6	175.8	199.0
III	**Manufactured Products**	57.042	103.5	109.8	117.5	124.5	129.2	138.5	151.5	168.6	182.8	203.5
	Food Products	10.143	97.4	107.8	113.9	117.2	129.1	140.5	147.8	165.3	181.7	206.3
	Beverages, Tobacco and Tobacco Products	2.149	100.2	106.7	111.1	123.2	133.0	155.0	180.7	207.7	242.1	265.7
	Textiles	11.545	104.8	109.5	120.0	119.5	116.0	126.6	139.6	158.2	171.2	188.3
	Paper and Paper Products	1.988	108.5	118.2	131.4	144.1	154.3	170.2	180.9	208.4	222.4	261.5
	Leather and Leather Products	1.018	100.4	108.3	115.4	128.1	134.2	142.9	168.4	185.7	224.3	233.9
	Rubber and Plastic Products	1.592	108.4	109.7	115.6	125.6	132.8	143.5	155.3	159.4	164.9	170.6
	Chemical and Chemical Products	7.355	103.5	107.3	112.0	118.3	124.6	131.9	135.8	140.0	147.9	168.4
	Non-Metallic Mineral Products	2.477	114.5	127.7	138.6	141.1	142.5	147.9	152.4	167.0	185.6	215.7
	Basic Metal, Alloys and Metal Products	7.632	104.5	111.7	123.1	139.6	141.3	149.7	176.4	205.6	219.9	234.8
	Machinery and Machine Tools	62.68	102.8	106.7	112.2	121.4	127.3	132.3	150.8	166.2	180.2	208.3
	Other Miscellaneous Manufacturing Industries	9.72	101.8	101.6	101.5	99.3	107.0	109.8	113.1	117.2	119.0	128.3
IV	All Commodities	100.000	104.9	112.8	120.1	125.4	132.7	143.5	154.2	165.7	182.7	207.8

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TABLE 12.9 CONSUMER PRICE INDEX NUMBER FOR INDUSTRIAL WORKERS

Year	Bombay	Ahmadabad	Calcutta	Madras	Kanpur	Delhi	All India	
							All Items	Food
Linking Factor	5.12	4.78	4.74	5.05	4.69	4.97	4.93	4.98
1970-71	182	176	182	170	190	199	186	201
1971-72	190	181	187	182	196	211	192	205
1972-73	203	198	197	203	212	222	207	223
1973-74	233	245	228	229	251	265	250	279
1974-75	289	305	288	301	323	337	317	358
1975-76	300	293	287	314	299	333	313	342
1976-77	298	281	297	288	294	332	301	317
1977-78	318	310	320	311	330	358	324	345
1978-79	325	323	331	318	337	368	331	347
1979-80	359	348	351	350	357	389	360	373
1980-81	400	376	382	388	396	426	401	419
1981-82	460	441	414	446	439	472	451	476
1982-83	502	487	447	475	473	508	486	508
1983-84	564	544	511	550	528	551	547	581
1984-85	609	570	576	576	554	597	582	607
1985-86	654	599	610	630	614	648	620	630
1986-87	717	657	671	681	672	707	674	700
1987-88	791	724	714	756	725	788	736	767
1988-89	856[1]	763[1]	783[1]	802[1]	763[1]	852[1]	786[1]	820[1]
	171[2]	163[2]	172[2]	167[2]	172[2]	177[2]	166[2]	172[2]
1989-90	179	171	178	172	178	182	173	177
1990-91	201	196	203	189	202	201	193	199
1991-92	234	225	223	216	228	225	219	230

1. Average based on six months indices only-April September 1988 on 1960 base.
2. Average based on six months indices only-October 1988 March 1989 on 1982 base.

Note: Old Series (1960-100) has been replaced by the New Series (1982-100) from October 1988 Linking factors between 1960 series and 1982 series are operative from October 1988.

Source: Labour Bureau, Shimla.

All-India index is compiled as weighted arithmetic average of centre indices with weights proportionate to aggregate estimate expenditure of each centre.

ECONOMIC CENSUS AND SURVEYS

The Central Statistical Organisation conducted the first economic census in 1977 to fill data gaps in the unorganised sectors of non-agricultural economy. The economic census was aimed at providing basic information on distribution of non-agricultural enterprises and to provide frame for follow up surveys for collection of detailed information about the structure of enterprises, investments, input, output, employment, etc., of the enterprises. The first economic census was followed by two sample surveys—one in 1978-79 relating to unorganised manufacturing and the second in 1979-80 devoted to trade, transport, hotels and restaurants, storage and warehousing and services.

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The second economic census was conducted in 1980 during the houselisting operations of 1981 population census with increased scope and coverage. It covered all enterprises (establishments and own-account enterprises) in the non-agricultural sectors and agricultural sector excluding crop production and plantation. Based on the information thrown up by this census, three follow-up surveys were carried out, one in 1983-84 on hotels and restaurants, transport, storage and warehousing and services; second in 1984-85 on unorganised manufacturing and third in 1985-86 on wholesale and retail trade.

The frame of 1980 census was updated during 1987-88 in 64 towns. On the basis of Economic Census 1980 and updated frame, four surveys were conducted. A survey on hotels and restaurants and transport was conducted in 1988-89. Unorganised manufacturing establishment survey was conducted during 1989-90. The survey on trade sector was conducted during 1990-91. Services—education, medical and cultural was surveyed in 1991-92.

According to 1980 Economic Census, there were 169 lakh enterprises (58.4 per cent in rural areas) engaged in non-agricultural activities, employing 507 lakh persons (43.3 per cent in rural areas).

The third economic census was also conducted along with the houselisting operations of 1991 population census in all states/UTs except Jammu and Kashmir. As per the quick results, there are 250 lakh enterprises out of which 223 lakh are in the non-agricultural sector. The total number of persons usually working are of the order of 698 lakh out of which 386 lakh are hired workers, 179 lakh enterprises operated without any hired labour on a regular basis and mainly run by the households themselves with unpaid helpers. The data processing of EC-90 is undertaken in a decentralised manner by states/UTs. The all-India results are generated by CSO for which processing is done by Computer Centre.

TABLE 12.10 CONSUMER PRICE INDEX NUMBER FOR URBAN NON MANUAL EXPLOYEES

(BASE 1960-100)

Year	Bombay	Calcutta	Madras	Delhi/ New Delhi	All-India
1970-71	168	170	175	174	174
1971-72	172	174	188	180	180
1972-73	183	180	203	190	192
1973-74	204	204	231	217	221
1974-75	241	238	291	262	270
1975-76	246	243	306	273	277
1976-77	255	251	294	274	277
1977-78	269	265	311	288	296
1978-79	285	279	321	303	306
1979-80	315	297	350	321	330
1980-81	347	331	390	352	369
1981-82	393	367	439	395	413

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Year	Bombay	Calcutta	Madras	Delhi/ New Delhi	All-India
1982-83	440	384	470	428	446
1983-84	493	418	531	468	492
1984-85	538	451	577	508	532
1985-86	568	481	611	551	568
1986-87	612	530	671	597	613
1987-88[1]	666	562	736	645	656
1988-89[2]	130	135	141	135	136
1989-90[2]	139	146	152	143	145
1990-91[2]	154	164	168	156	161
1991-92[2]	180	181	189	177	183

1. Average is based on seven indices (April 1987 October 1987)
2. A new series of index Numbers on Base 1984-85-100 has been introduced from November 1987. All-India Index on New Base may be converted to Old Base by multiplying the conversion factor 5.32. Conversion factors in respect of Bombay, Calcutta, Madras, Delhi/New Delhi are 5.38, 4.51, 5.77 and 5.08 respectively.

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13 Finance

FINANCES of the Government are controlled and regulated by the Ministry of Finance. It is concerned with all economic and financial matters affecting the country as a whole, including mobilisation of resources for development and other purposes. It regulates expenditure of Government including transfer of resources to the states. This Ministry comprises three departments, namely, (i) Economic Affairs, (ii) Expenditure and (iii) Revenue.

The Department of Economic Affairs consists of seven main divisions namely, (i) Economic, (ii) Banking, (iii) Insurance, (iv) Budget, (v) Investment, (vi) External Finance and (vii) Currency and Coinage. This Department *inter-alia* monitors current economic trends and advises Government on all matters of internal and external economic management including working of commercial banks, term-lending institutions, investment regulations, external assistance, etc. Preparation of the Budget of the Union of India as well as the state governments and union territory administrations with legislature when under President's rule and their presentation to Parliament is also the responsibility of this Department.

The Department of Expenditure comprises eight main divisions, namely, (i) Plan Finance Division, (ii) Establishment Division, (iii) Cost Accounts Branch, (iv) Controller General of Accounts, (v) Finance Commission Division (vi) Implementation Cell, (vii) Integrated Finance Division and (viii) Staff Inspection Unit.

Department of Revenue exercises control in respect of revenue matters relating to direct and indirect Union taxes through two statutory boards, namely, Central Board of Direct Taxes and the Central Board of Excise and Customs. This Department is also entrusted with the administration and enforcement of controls and regulatory measures provided in the enactments concerning Central sales tax, stamp duties, gold control, foreign exchange and other relevant fiscal statutes. Control over production and disposal of opium and its products is also vested with this Department.

ECONOMIC AFFAIRS

PUBLIC FINANCE

Power to raise and disburse public funds has been divided under the Constitution between Union and state governments. Sources of revenue for Union and states are by and large, mutually exclusive, if shareble taxes and

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duties between them are excluded. The Constitution provides that: (i) no tax can be levied or collected except by an authority of law; (ii) no expenditure can be incurred from public funds except in the manner provided in the Constitution and (iii) executive authorities must spend public money only in the manner sanctioned by Parliament in case of Union and by the state legislature in the case of a state.

All receipts and disbursement of the Union are kept under two separate headings, namely Consolidated Fund of India and Public Account of India. All revenues received, loans raised and money received in repayment of loans by the Union form the Consolidated Fund. No money can be withdrawn from this Fund except under the authority of an Act of Parliament. All other receipts, such as deposits, service funds and remittances go into Public Account and disbursements therefrom are not subject to the vote of Parliament. To meet unforeseen needs not provided in the Annual Appropriation Act, a Contingency Fund of India has been established under Article 267(1) of the Constitution. The Indian Constitution provides for the establishment of a Consolidated Fund, a Public Account and a Contigency Fund for each state.

The Railways, the largest public undertaking, present their budget separately to Parliament. Appropriations and disbursements under the Railway budget are subject to the same form of Parliamentary control as other appropriations and disbursements. However, as the Railways have no separate cash balance of their own, total receipts and disbursements of the Railways are incorporated in the budget of the Union as part of the General Budget.

SOURCES OF REVENUE

The main sources of the Union tax revenue are customs duties, Union excise duties, corporate and income taxes. Non-tax revenues largely comprise interest receipts, including interest paid by the Railways and Telecommunications, and dividend and profits. The main heads of revenue in states are taxes and duties levied by the respective state governments, share of taxes levied by the Union and grants received from the Union. Property taxes, octroi and terminal taxes are the mainstay of local finance.

TRANSFER OF RESOURCES

Devolution of resources from the Union to the states is a salient feature of the system of federal finance of India. Apart from their share of taxes and duties, state governments receive statutory and other grants as well as loans for various development and non-development purposes. The total amount of resources transferred to the state during each Plan period is shown in table 13.1.

ANNUAL FINANCIAL BUDGET

An estimate of all anticipated receipts and expenditure of the Union for the ensuing financial year is laid before the Parliament. This is known as 'Annual

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Financial Statement' or 'Budget' and covers Central government's transactions of all kinds, in and outside India, occuring during the preceding year, the year in which the statement is prepared as well as the ensuing year or the 'Budget Year' as it is known.

TABLE 13.1 RESOURCES TRANSFERRED TO STATES

(Rs crore)

Period	Taxes and Duties	Grants	Loans (Gross)	Total
First Plan	344	288	799	1, 431
Second Plan	688	789	1, 411	2, 888
Third Plan	1,196	1, 304	3, 100	5, 600
Annual Plans				
1966-67	373	419	916	1, 708
1967-68	417	471	869	1, 757
1968-69	492	499	891	1, 882
Fourth Plan	4, 562	3, 831	6, 708	15, 101
Fifth Plan	8, 268	8, 198	8, 978	25, 444
Annual Plan				
1979-80	3, 406	2, 288	2, 697	8, 391
Sixth Plan	23, 728	17, 941	23, 722	65, 391
Seventh Plan	49, 465	42, 005	48, 945	1, 40, 415
1990-91	14, 534	13, 202	14, 476	42, 212
1991-92	17, 197	15, 700	13, 145	46, 042
1992-93(RE)	20, 525	18, 298	13, 315	52, 138

RE: Revised Estimates.

The presentation of Budget is followed by a general discussion on it in both Houses of Parliament. Estimates of expenditure from Consolidated Fund of India are placed before the Lok Sabha in the form of 'Demands of Grants.' All withdrawals of money from the Consolidated Fund are thereafter authorised by an Appropriation Act passed by Parliament every year. Tax proposals of Budget are embodied in a Bill which is passed as the 'Finance Act' of the year. Estimates of receipts and expenditure are similarly presented by state governments in their legislatures before the beginning of the financial year and legislative sanction for expenditure is secured through similar procedure. Budgetary portion of the Union from 1989-90 onwards is shown in table 13.2.

PUBLIC DEBT

Public debt includes internal debt comprising borrowings inside the country like market loans, compensations and other bonds, treasury bills issued to the Reserve Bank of India, state governments, commercial banks and other parties as well as non-negotiable non-interest bearing rupees securities issued to the international financial institutions; and external debt comprising loans from foreign countries, international financial institutions etc. Table 13.3 gives an analysis of public debt and "other liabilities" at the end of selected years. The "other liabilities" include outstanding against the various small

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savings schemes, provident funds, securities issued to Industrial Development Bank of India, Unit Trust of India and nationalised banks, deposits under the special deposit schemes, reserve funds and deposits.

TABLE 13.2 BUDGETARY POSITION

(Rs crore)

		1989-90 (Actuals)	1990-91 (Actuals)	1991-92 (Actuals)	1992-93 (Revised Estimates)
1.	Revenue Receipts	52, 296	54, 954	66, 047	78, 279
2.	Revenue Expenditure	64, 210	73, 516	82, 308	94, 979
3.	Revenue Deficit [1] (7_8)	11, 914	18, 562	16, 261	16, 700
4.	Capital Receipts	30, 020	38, 997	38, 528	39, 245
5.	Recoveries of loans and other receipts	4, 980	5, 712	9, 058	9, 725
6.	Borrowings and other liabilities	25, 040	33, 285	29, 470	29, 520
7.	Capital Expenditure	28, 698	31, 782	29, 122	29, 747
8.	Total Receipts	82, 316	93, 951	1,04, 575	1,17, 524
9.	Total Expenditure	92, 908	1,05, 298	1,11, 430	1,24, 726
10.	Budgetary Deficit[1] (7-8)	10, 592	11, 347	6, 855	7, 202
11.	Fiscal Defecit [2] [(1+5)-9=6+10)]	35, 632	44, 632	36, 325	36, 722

1. Represents borrowing from Reserve Bank through issue of 91 day Treasury Bills and draw down of cash balance.
2. Represents borrowing requirements of Government from all sources.

BANKING

Although some form of banking, mainly, money-lending type, has been in existence in India from ancient times, it was only a little over a century ago that modern banking took its birth. Earliest institutions which undertook banking business under the British regime were agency houses which carried on banking business, in addition to their trading activities. Most of these agency houses were closed down during 1929-32. A number of banks which came into existence between the thirties and forties of the last century were also in great trouble. Prominent among these were three presidency banks which were later amalgamated into Imperial Bank of India in 1919 following a banking crisis.

The first bank of limited liability managed by Indians was Oudh Commercial Bank founded in 1881. Subsequently the Punjab National Bank was established in 1894. *Swadeshi* movement which began in 1906 encouraged the formation of a number of commercial banks. Banking crisis in 1913-1917 and failure of 588 banks in various states during the decade ending in 1949, underlined the need for regulating and controlling commercial banks. The Banking Companies (Inspection Ordinance) was passed in January 1946 and the Banking Companies (Restriction of Branches) Act in February 1946. The Banking Companies Act was passed in February

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TABLE 13.3 PUBLIC DEBT AND OTHER LIABILITIES OF GOVERNMENT OF INDIA (Rs Crore)

Item	As at the end of March										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993 (RE)
1. Internal Debt (i to vii)	46,939	50,263	58, 537	71,039	86,312	98,646	1,14,498	1,33,193	1,54,004	1,72,750	1,93,035
(i) Current Market Loans	22,232	26,270	30,360	35,241	40,832	46,696	55,115	62,520	70,520	78, 023	81,693
(ii) Others	429	520	557	545	443	381	1093	1399	1912	5148	9338
(iii) Special Bearer Bonds	964	964	964	964	964	964	964	964	951	277	1143
(iv) 91 days Treasury Bills	17,431	15,756	19,452	26,014	19,876	8,028	14,273	25,184	6,953	8,840	14,174
(v) Special Securities issued to the RBI in conversion of Treasury Bills					18,500	36,000	36,000	36,000	66,000	71,000	71,000
(vi) Special floating and other loans	1,673	2,183	2, 554	3,088	4,330	5,400	6,066	6,244	6, 566	8,415	14,640
(vii) Other Special Securities issued to R.B.I.	4,210	4,570	4,650	51,87	13,67	11,77	987	882	11,02	10, 47	10.47
2. External Debt	13,682	15,120	16,637	18,153	20,299	23,223	25,746	28,343	31,525	36,948	41,218
Total Public Debt (1+2)	60,621	65,383	75,174	89,192	1,06,611	1,21,869	1,40,244	1,61,536	1,85,529	2,09,698	2,34,253
3. Other Liabilities	24,251	29,878	38,267	48,292	59,935	73,692	89,527	1,06,657	1,29,029	1,44,964	1,62,229
Total Public Debt and Other Liabilities	84, 872	95, 261	1,13,441	1,37,484	1,66,546	1,95,561	2,29,771	2,68,193	3,14,558	3,54,662	3,96,482

1. Comprises balance of expired loans, Compensation and other bonds such as National Rural Development Bonds and Capital Investment Bonds. Annuity certificates are excluded.
2. These represent mainly non-negotiable non-interest bearing securities issued to International Financial institutions like International Monetary Fund, International Bank for Reconstruction and Development and Asian Development Bank.

RE. Revised Estimates

3. At book value.
4. Comprises accruals under Small Savings Schemes, Provident Funds, Special Deposits of Non-Government Provident Funds and other Reserve Funds and Deposits.

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1949 which was subsequently amended to read as Banking Regulation Act. With a view to bringing commercial banks into the mainstream of economic development with definite social obligations and objectives, Government issued an Ordinance on 19 July 1969 acquiring ownership and control of 14 major banks in the country with deposits exceeding Rs 50 crore each. Six more commercial banks were nationalised from 15 April 1980.

Objectives of public sector banking system were outlined on 21 July 1969. Some of them for to: (a) mobilise savings of people to the largest possible extent and utilise them for productive purposes; (b) operations of banking system should be prompted by a larger social purpose and should be subject to close public regulation; (c) legitimate credit needs of private sector industry and trade, big or small, (d) ensure that needs of productive sectors of the economy and in particular those of farmers, small scale industrialists and self-employed professional groups are met in an increasing manner; (e) ask nationalised banks to actively foster the growth of the new and progressive entrepreneurs and create fresh opportunities for hither to neglected and backward areas in different parts of the country, and (f) to curb the use of bank credit for speculative and other unproductive purposes.

RESERVE BANK OF INDIA

Reserve Bank of India (RBI) was established under the Reserve Bank of India Act, 1934 on 1 April 1935 and nationalised on 1 January 1949. Main objectives are regulating issue of bank notes, keeping foreign exchange reserves of the country, operating currency and credit system of the country with a view to securing monetary stability in India and developing financial structure of the country on sound lines consistent with national socio-economic objectives and policies.

The Bank is the sole authority for issue of currency in India other than one rupee coins and subsidiary coins and notes. As the agent of Central Government, Reserve Bank undertakes distribution of one rupee notes and coins, as well as small coins issued by government. The Bank acts as banker to Central Government, state governments, commercial banks, state cooperative banks and some of the financial institutions. It formulates and administers monetary policy with a view to promoting stability of prices while encouraging higher production through appropriate deployment of credit. Reserve Bank plays an important role in maintenance of exchange value of the rupee and acts as an agent of Government in respect of India's membership of International Monetary Fund. The Bank also performs a variety of developmental and promotional functions.

COMPOSITION OF BANKING SYSTEM

Commercial Banking System in India consisted of 276 scheduled commercial banks and four non-scheduled commercial banks at the end of March 1991.

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TABLE NO. 13.4 PROGRESS OF COMMERCIAL BANKING IN INDIA

Item	June 1969	June 1973	June 1978	June 1980	June 1981	June 1982	June 1983	June 1984	June 1985	June 1986	June 1987	June 1988	June 1989	March 1990	March 1991
1. Number of Commercial Banks	89	83	128	187	187	206	226	247	268	276	279	278	278	274	276
(i) Scheduled Commercial Banks	73	74	122	148	183	202	222	243	264	273	275	274	274	270	272
(ii) Regional Rural Banks	—	48	73	102	121	142	162	183	194	196	196	196	196	196	196
(iii) Non-Scheduled Commercial Banks	16	—	6	5	4	4	4	4	4	4	4	4	4	4	4
2. Number of Offices in India	8,262	15,362	28,016	32,419	35,707	39,177	42,079	45,332	51,385	53,265	53,840	55,410	57,699	59,756	60,220
3. Population per office (in thousand)	64	37	23	21	19	18	17	16	15	14	15	14	14	14	14
4. Aggregate deposits of Scheduled Commercial Banks (Rs. Crore)	4,646	5,165	23,133	30,377	40,549	46,128	54,039	64,620	77,075	51,828	1,07,898	1,26,323	1,47,854	1,73,515	2,01,199
5. Aggregate credit of Scheduled Commercial Banks (Rs Crore)	3, 599	6,412	15,694	22,068	26,551	30,180	36,006	43,613	50,921	57,229	64,213	72,436	89,080	1,05,450	1,21,865
6. Per capita deposit of Scheduled Commercial Banks (Rs)[1]	88	160	361	494	587	654	750	887	1,026	1,198	1,374	1,586	1,821	2,098	2, 368
7. Per capita credit of Scheduled Commercial Banks (Rs)[1]	68	112	243	327	385	428	500	593	678	747	816	909	1, 097	1, 275	1, 434
8. Deposits as percentage of National Income (at current pricess)[2]	15.5	21.4	29.4	35.9	36.2	38.4	38.3	41.5	43.6	47.6	44.9	45.8	45.7	45.7	50.0 49.4

1. Based on estimated mid-year population figures supplied by the Office of the Registrar General, India. For 1969 based on 1971 census and from 1982 to 1990 based on 1981 census.
2. Figures for National Income and deposits relate to year ending March, National Income data (except 1969) relate to new series (base 1980-81 = 100): data for 1990 are based on quick estimates.

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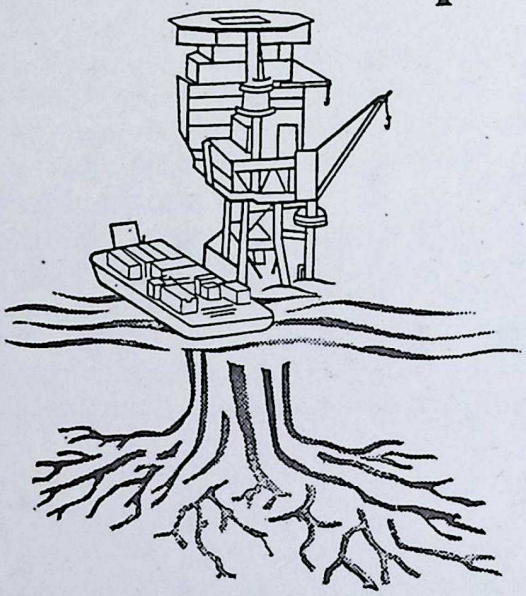
Today's Projects – Tomorrow's Prospects



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Seven major Projects of **ONGC**

ONGC today is on the threshold of a new horizon.

Seven new projects are underway with an aim to augment oil and gas production, gas transportation and processing capacities. They are Neelam, L-II, L-III, Gandhar Phase-II, South Heera, ICP-Heera pipeline, South Bassein Hazira Trunk Pipeline and expansion of shore terminal facilities.

On completion cumulative production from these projects will be 150 MMT of Oil and 53 BCM of Gas by 2010-11.

Implementation of these seven major projects involves an investment of about Rs. 16,000 crores. Massive mobilization of highly sophisticated technology and services is underway.

The new horizon can almost be sighted. The process of enhancing oil and gas production by these projects will start by 1994-95.

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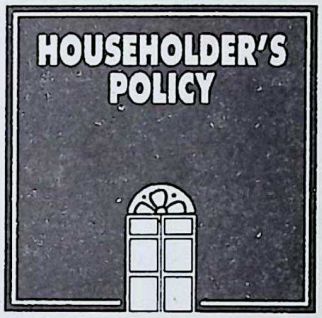
No more risks

Insure your building and the contents therein against burglary, fire, floods, riots and many such risks

Ensure your peace of mind

Your home is really your dream come true. Your hard earned money is spent with care on furnishings, TV, music system, fridge, dinner set, carpets and much more... but wait, none of it is really safe from damage or loss. You read and hear about theft, burglaries, riots, fires, lootings, etc. Not to forget calamities like earthquakes, floods, landslides... your much cherished dream can be shattered in just a few moments !



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Some of the sections of this Policy are described below :

Section I covers the building and contents against risks of fire, lightning, explosion of gas in domestic appliances, bursting/over-flowing of water tanks/pipes, aircrafts or articles dropped therefrom, riots, strikes, malicious acts, earthquakes, floods, etc.

Section II covers contents against the risks of Burglary, Housebreaking, Larceny and Theft.

Section III can provide wider cover to your jewellery and valuables, even while you are using them.

Section IV, V, VI, VII & VIII provide appropriate cover to Plate Glass, Domestic Appliances, TV/VCR/VCP, Pedal Cycle and Personal Baggage whilst on tour respectively.

Section IX & X provide cover against Personal Accident and Public Liability respectively.

Discounts :

If you opt for more than 4 sections your get 15% discount on the non-tariff premium and if you opt for more than 6 sections the discount is 20%.

For all this you pay only a marginal premium annually as under :-

Sec. No.	Description of Property	Rate per Rs. 1000/-
i	Fire & Allied Perils	0.60
	A. Building of Class A construction only	
	B. Contents (excluding jewellery & valuables)	0.60
II	Burglary, Housebreaking, including Larceny or Theft	2.40
III	All Risks	10.00
IV	Plate Glass	10.00
V	Breakdown of Domestic Appliances	2.50
VI	T.V. Set	10.00
VII	Pedal Cycle	20.00
VIII	Baggage Insurance	7.50
IX	Personal Accident	As per Tariff
X	A. Public Liability	0.50
	B. Workmen's Compensation Liability	As per Tariff

These details do not purport to be the complete text of the Policy.
For more details, please contact your nearest NIC Office.

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Of the scheduled commercial banks, 224 are in the public sector. In the public sector banking system, there are 196 regional rural banks, speacilly set up to increase the flow of credit to small borrowers in the rural areas. These banks have specified areas of operations usually limited to two or three districts. Their lending operations are also directed towards specified weaker sections. The remaining 28 banks in public sector are regular commercial banks. Some important indicators in regard to progress of commercial banking in India during the recent past are given in table 13.4.

Amongst the public sector banks (as at the end of March 1991), State Bank of India (SBI) was the biggest unit with 8, 513 offices and deposits of Rs 43, 583 crore and advances of Rs 29, 082 crore. Apart from the State Bank of India, there are seven other banks called associate banks of State Bank of India. In these banks, SBI owns either the entire or the majority of share capital. The State Bank and its associate banks as a group account roughly for one-third of aggregate banking business conducted by the public sector banks (aggregate of deposits and advances) and around 34 per cent of the aggregate business of the entire banking system. Other 20 banks in the public sector are nationalised banks. The philosophy of bank nationalisation was that the financial institutions, which mobilise savings of public, should broadly function as an instrument for promoting economic and social development in a more purposeful manner.

DEPOSITS AND ADVANCES

Aggregate deposits of scheduled commercial banks have risen by Rs 30, 907 crore during the period 20 March 1992 to 25 December 1992, representing a growth rate of 13.4 per cent as against the growth rate of 14.7 per cent during the corresponding period in 1991-92. The demand deposits during the year 1991-92 (till 25 December 1992) recorded a marginal increase of Rs 852 crore as against increase of Rs 9, 193 crore during the corresponding period in 1991-92. Total time deposits showed an increase of Rs 31, 758 crore. As on 25 December 1992 total deposits of scheduled commercial banks stood at Rs 2, 61, 665 crore and total advances of all commercial banks stood at Rs 1, 42, 480 crore. Credit: deposit ratio of the same date was 54.5 per cent. Total bank credit of scheduled commercial banks during the year 1992-93 (till 25 December 1992) recorded an increase of Rs 16, 888 crore representing a growth rate of 13.4 per cent. During this period, there has been an increase of Rs 483 crore in the area of food credit while increase in the non-food credit was Rs 16, 405 crore.

REGIONAL RURAL BANKS

The Regional Rural Banks through its 14, 539 branches as at the end of March 1992 cover 392 of the 478 districts in the country. The branches of these banks constitute over 24 per cent of all scheduled commercial banks branches and around 38 per cent of the rural branches of all scheduled commercial banks which indicates a significant effort on the part of the RRBs to serve the weaker

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sections of the society. There are 196 RRBs operating in the country in all the states except Sikkim and Goa.

The credit support provided by these banks amounted to Rs 4,090.86 crore (outstanding) in 123.99 lakh accounts of March 1992. Moreover, they have disbursed Rs 1,107.85 crore as loans and advances during the year ended March 1992 to 23.40 lakh beneficiaries of the weaker sections. As at the end of March 1992 as much as Rs 5,867.83 crore were mobilised by way of deposits by the RRBs in 345.26 lakh accounts. In order to supplement the limited resources of the regional rural banks both NABARD and sponsor banks extend financial assistance to these institutions by way of refinance. These refinances rates have been revised.

PRIORITY SECTOR ADVANCES

Extension of credit to small borrowers in the hitherto neglected sectors of the economy has been one of the major tasks assigned to the banks in the post-nationalisation period. To achieve this objective, banks have drawn up schemes to extend credit to small borrowers in sectors like agriculture, small scale industry, road and water transport, retail trade and small business, which traditionally had very little share in the credit extended by banks. Taking into account the need to provide resource requirements to weaker sections, for specific needs, consumption credit (with certain limits) has been included in priority sectors. Similarly small housing loans to scheduled castes/scheduled tribes and other weaker sections are also classified as priority sector advances.

As at the end of the September 1992, outstanding priority sector advances of 28 public sector banks stood at Rs 45, 701 crore in 3.57 crore borrowal accounts. Total outstanding agricultural advances were Rs 18, 836 crore (corresponding outstanding advances in September 1991 were Rs 17, 316 crore) of which outstanding direct agricultural advances were Rs 17, 384 crore. During this period, advances of public sector banks under 20-Point Programme stood at Rs 11, 358 crore in 212 lakh borrowal accounts and outstanding advances to the weaker sections including small and marginal farmers, artisans, beneficiaries of Integrated Rural Development Programme (IRDP), Self-employment Programme for Urban Poor (SETUP), Differential Rate of Interest Scheme (DRI) and SCs and STs etc., aggregated to Rs 11, 043 crore. Advances to SCs and STs stood at Rs 3, 870 crore involving 92 lakh borrowers. Table 13.5 shows achievements of public sector banks in stepping up flow of credit in various priority sectors.

INTEGRATED RURAL DEVELOPMENT PROGRAMME

Integrated Rural Development Programme (IRDP) envisages capital subsidy and credit assistance to the identified poor families for acquiring income-generating assets to come up above the poverty line. The total term credit disbursed during 1991-92 by the banks was Rs 1, 133.27 crore against Rs 1, 190.03 crore in 1990-91. The total number of beneficiaries assisted during 1991-92 was

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TABLE 13.5 ADVANCES OF PUBLIC SECTOR BANKS

Sector	No. of Borrowal Accounts (Lakh)							
	June 1969	Dec. 1985	Dec. 1986	Dec. 1987	Dec. 1988	March[1] 1990	Sept. 1990	Dec 1991
1. Agriculture								
i) Direct Finance	2.67	150.27	165.58	181.32	193.16	210.55	197.43	205.62
ii) Indirect Finance		9. 73	9.55	7.70	6.72	7.28	5.82	5.83
2. Small Scale Industry	0.57	15.95	18.11	21.19	24.64	27.25	27.68	28.99
3. Road and Water Transport Operators	0.03	5.92	6.16	6.64	6.99	7.53	7.42	—
4. Professional and Self-employed Persons	—	16.13	18.26	20.81	22.20	23.92	23.37	–
5. Retail Trade and Small Business	—	39.88	47.86	57.67	68.10	76.95	76.67	—
6. Education	0.01	0.66	0.69	0.76	0.72	0.72	0.68	115.92[2]
7. Housing	—	1.64	1.95	2.44	2.44	2.71	2.71	—
8. Consumption	—	1.62	1.49	1.67	1.76	1.53	1.50	—
9. Other Priority Sectors	—	0.14	0.09	0.23	0.18	0.03	0.34	—
Total	3.28	241.94	269.74	300.48	326.91	358.67	346.62	356.42

1. Information relates to 15 months in view of the change in the Accounting year of the banks from January-December to April-March.
2. Break-ups are not available.

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TABLE No. 13.5 (Continued)

Sector	Amount Outstanding (Rs crore)							
	June 1969	Dec. 1985	Dec. 1986	Dec. 1987	Dec. 1988	March 1990	Sept. 1990	Dec. 1991
1. Agriculture								
i) Direct Finance	188.40	7, 415.13	8, 929.97	10, 341.38	12, 072.04	15, 152.25	14, 665.83	16, 213.91
ii) Indirect Finance	—	1, 378.32	1, 377.49	1, 463.47	1, 498.42	1, 364.44	1,296.32	1, 315.90
2. Small Scale Industry	285.90	7, 470.70	8, 607.08	10, 190.20	12, 234.79	15, 015.39	15, 334.99	16, 817.98
3. Road and Water Transport Operators	8.20	1,882.70	1,958.62	2, 016.30	2, 166.05	2, 376.61	2, 387.16	—
4. Professional and Self-employed persons	0.30	653.29	833.68	991.93	1,102.17	1,332.17	1,306.76	—
5. Retail Trade and Small Business	—	1,721.50	2,122.49	2,590.54	3,137.99	3,801.91	3,996.31	8,688.22[2]
6. Education	0.50	32.68	35.85	45.56	55.15	67.25	73.50	—
7. Housing	—	63.80	106.06	167.01	228.94	329.50	313.88	—
8. Consumption	—	21.07	18.91	30.00	24.44	24.08	25.35	—
9. Other Priority Sectors	—	8.61	18.13	95.18	142.45	110.51	140.78	—
Total	483.30	20, 647.88	24,085.28	27, 940.57	32, 662.14	39,574.11	39,540.88	43,036.01

1. Information relates to 15 months in view of the change in the Accounting Year of the banks from January-December to April-March
2. Break-ups are not available.

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25.17 lakh as against 28.98 lakh in 1990-91. Both in terms of credit disbursal and the number of beneficiaries, the targets were exceeded during 1991-92. During 1992-93 (upto 30 October 1992) a sum of Rs 408.09 crore was disbursed by the banks to 7.68 lakh beneficiaries.

SELF EMPLOYMENT PROGRAMME FOR URBAN POOR

The programme was launched by Government of India on 1 September 1986 with the objective of encouraging families living below subsistance level in metropolitan, urban and semi-urban areas to undertake self-employment ventures with the help of subsidy and bank credit. The programme covers cities and towns having population exceeding 10,000 as per 1981 census and all urban areas administered by municipal committees/town area committees/notified area councils which are covered under IRDP, irrespective of their population.

Under the scheme, assistance upto Rs 5,000 depending on unit cost is admissible to an eligible beneficiary for undertaking any of the eligible vocations. The borrowers are eligible for a capital subsidy of 25 per cent of the total amount of assistance. Applicant should have lived at least for three years in the city/town area. The family income of the beneficiaries should not have exceeded Rs 600 per month.

During 1991-92, an amount of Rs 48.86 crore (provisional) was sanctioned to 1.11 lakh beneficiaries. The Self Employment Programme for Urban Poor (SEPUP) was merged with the Scheme for Urban Microenterprises (SUME) under the *Nehru Rozgar Yojna* (NRY) with effect from 1 April 1992.

SCHEME OF URBAN MICRO ENTERPRISES

The Scheme of Urban Micro Enterprises (SUME) was introduced on 15 June 1990 with the objective of providing employment to the unemployed and under-employed poor in urban areas. It covers unemployed urban poor living below the poverty line with an annual family income of Rs 7, 200 (which has since been revised to Rs 11, 850) and below for the Eighth Five Year Plan with effect from 1 April 1992 in metropolitan areas, cities and towns not covered by IRDP. The urban local bodies are primarily responsible for identifying beneficiaries. Maximum loan amount presently permitted is Rs 15, 000 in the case of SCs/STs and women beneficiaries and Rs 12, 000 in the case of others with a subsidy at the rate of 25 per cent of the project cost, subject to ceiling of Rs 5, 000 for SCs/STs and women beneficiaries and Rs 4, 000 for others. The subsidy is routed through the urban local bodies.

SELF-EMPLOYMENT SCHEME FOR THE EDUCATED UNEMPLOYED YOUTH

The scheme for providing self employment to the educated unemployed youth (SEEUY) which was introduced during 1983-84 was continued during the financial year 1990-91 also. Under the scheme, educated unemployed youth who are matriculates and above and are within the age group of 18 to

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35 years are eligible to take a loan alongwith 25 per cent of capital subsidy to be provided by the Central government. Since 1986-87 ITI trained candidates have also been made eligible under the scheme for undertaking activities in industries and service sectors.

Under the scheme as modified from the financial year 1986-87, a composite loan not exceeding Rs 35,000 is available to eligible entrepreneurs for industrial ventures. The ceiling amount for the service and business ventures has been stipulated at Rs 25,000 and Rs 15,000 respectively. The proportions of industrial ventures to be sanctioned out of the total target for each state should not be less than 50 per cent and for business ventures not to exceed 30 per cent. A minimum of 30 per cent of the total number of sanctions have been reserved for SC/ST beneficiaries from the year 1986-87. However, the reservation need not be observed in respect of each route. Women and technically trained personnel are also to be given due consideration.

A uniform criteria of family income of the beneficiary has been prescribed under the scheme which should not exceed Rs 10,000 per annum. The loan is repayable in 3-7 years with a moratorium of 6-18 months. During 1991-92, 0.93 lakh beneficiaries as against the target of 1.25 lakh, were sanctioned loan amounting to Rs 205.57 crore.

DIFFERENTIAL RATE OF INTEREST SCHEME

The Differential Rate of Interest (DRI) scheme was introduced in 1972 with a view to helping the weakest of the weak sections of the society by assisting them in their efforts to improve their economic conditions through small productive endeavours. Under the scheme public sector banks are required to fulfill the target of lending of at least one per cent of the total advances as at the end of the preceding year to such people at the interest of four per cent per annum. Banks are also required to lend 40 per cent of their total advances under the DRI scheme to scheduled castes and scheduled tribes.

INDIAN BANKS ABROAD

One hundred and fifteen branches, including off-shore branches and mobile agencies of nine Indian commercial banks were operating abroad as on 1 June 1992. These branches are spread over a number of countries and located in major centres like London, Singapore, Baharain, New York, Tokyo and Paris. The largest concentration is in the United Kingdom (33) followed by Fiji Islands (9), Kenya (8), Singapore, Hongkong and Mauritius (7 each), USA (7) and United Arab Emirates (6). These branches specialise in various areas of international banking including financing of foreign trade. They cater to the needs of Indian exporters and importers and to that extent they form an integral part of the domestic banking system. Besides these branches, Indian commercial banks are having representative offices in USA, Brazil, Mauritius, Indonesia, Iran, Egypt, erstwhile USSR, Italy, Zimbabwe and Phillipines. They are also having wholly-owned subsidiaries and joint ventures in USA,

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Canada, Kenya, Zambia, Nigeria. Uganda, Malaysia, Bhutan and Mauritius. At the end of December 1992 the number of branches came down from 115 to 109 because Bank of Baroda set up a subsidiary with 6 branches in Kenya.

INDUSTRIAL DEVELOPMENT BANK OF INDIA

Industrial Development Bank of India (IDBI), which was established under the Industrial Development Bank of India Act, 1964, is the principal financial institution for providing credit and other facilities for development of industry, co-ordinating working of institutions engaged in financing, promoting or developing industries and assisting development of such institutions. IDBI has been providing direct financial assistance to large and medium large industrial concerns and also helping small and medium industrial concerns through banks and state-level financial institutions. Paid-up capital of IDBI wholly subscribed by the Government as at the end of the March 1991, stood at Rs 703 crore. 1990-91 was the first year of operation of IDBI after setting up and commencement of operations of Small Industries Development Bank India (SIDBI). The entire portfolio of IDBI relating to the small and tiny sector has been transferred to SIDBI. During April-December 1992, overall sanctions of IDBI under various schemes of assistance aggregated to Rs 6,262.6 crore sanctioned during April-December, 1991. Disbursements during the same period was Rs 4,392.3 crore as against Rs 3,369.8 crore during the corresponding period of the previous year.

INDUSTRIAL FINANCE CORPORATION OF INDIA

Industrial Finance Corporation of India (IFCI) is the first and the oldest national level development finance institution established soon after India's Independence by the Industrial Finance Corporation Act, 1948. Set up with the objective of making medium and long term credit more readily available to industrial concerns in India, IFCI's role now extends to the entire industrial spectrum in the country. The facilities and services being provided by it can be deemed to fall broadly under (a) project finance, (b) financial services and (c) promotional services.

During April to December 1992 and April to December 1991, the Industrial Finance Corporation of India (IFCI) had sanctioned financial assistance of Rs 1,486.16 crore and Rs 1,150.12 crore for 295 and 372 projects respectively. The assistance disbursed during the aforesaid period was amounted to Rs 1,106.02 crore and Rs 953.41 crore. The sanctions during April to December 1992 registered an increase of 29.2 per cent over the sanctions made during the corresponding period of the preceding year. The financial assistance disbursed by the Corporation during April to December 1992 recorded an increase of 16 per cent over the disbursements made during the corresponding period of the previous year. The net cumulative financial assistance sanctioned by IFCI as on 31 December 1992 aggregated to Rs 14,608.65 crore in respect of 4,211 projects; the assistance disbursed as on the said date was Rs 9,756.40 crore.

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STATE FINANCIAL CORPORATIONS

State Financial Corporations (SFCs), operating at the state-level, form an integral part of the development financing system in the country. They function with the objective of financing and promoting small and medium enterprises for achieving balanced regional socio-economic growth, catalysing higher investment, generating greater employment opportunities and widening the ownership base of industry.

At present, there are 18 SFCs in the country, 17 of which were set up under SFCs Act, 1951. Tamil Nadu Industrial Investment Corporation Limited, set up in 1949 under the Companies Act as Madras Industrial Investment Corporation also functions as a full-fledged SFC. SFCs extend financial assistance to industrial units by way of term loans, direct subscription to equity/debentures, guarantees and discounting of bills of exchange. SFCs operate a number of schemes of refinance and equity type of assistance formulated by IDBI/SIDBI which include schemes for artisans, special target groups like SC/ST, women, ex-servicemen, physically handicapped, etc., and for transport operators, setting up hotels, tourism-related activities, hospitals and nursing homes, etc. IDBI has set up in 1990-91 a Working Group to review the operations of SFCs. The Working Group which submitted its report in 1991-92, made wide ranging recommendations for improving the working of SFCs. Total assistance sanctioned by SFCs during 1991-92 aggregated to Rs 2,178.1 crore, 16.9 per cent higher than Rs 1,863.9 crore in 1990-91. Disbursements increased by 21.2 per cent to Rs 1,540.1 crore from Rs 1,270.8 crore in 1990-91.

SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA

Small Industries Development Bank of India (SIDBI) established as a wholly owned subsidiary of Industrial Development Bank of India and as the principal financial institution for promotion, financing and development of industry in the small scale sector and to coordinate the functions of institutions engaged in similar activities, became operational on 2 April 1990. During the second year of its operations, it had maintained the growth impetus recorded during 1990-91, the first year of its operations. Aggregate sanctions and disbursements during the period April-December 1992 under various schemes of assistance amounted to Rs 1,748.9 crore and Rs 1,424.2 crore, respectively as against Rs 1,888.8 crore and Rs 1,430.9 crore in the corresponding period of 1991. During April-December 1992, sanctions and disbursements under refinance and bills rediscounting schemes were marginally lower compared to the corresponding period of the previous year. During the first nine months of 1992-93, SIDBI introduced three more schemes: (a) scheme of assistance under Venture Capital Fund, (b) equipment finance scheme for assisting profit making companies with good track record, and (c) refinance scheme for rehabilitation of NTC workers.

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EXPORT-IMPORT BANK OF INDIA

Export-Import Bank of India (Exim Bank) is the principal financial institution in India for coordinating working of institutions engaged in financing export and import trade. Exim Bank was established on 1 January 1982, for financing, facilitating and promoting foreign trade of India. During the year ending March 1992 Exim Bank sanctioned loans of Rs 1,140 crore registering an increase of 10 per cent over the previous year's level of Rs 1,043 crore. Disbursements stood at Rs 1,107 crore compared to Rs 858 crore, an increase of 29 per cent over previous year. Loan outstandings increased by 23 per cent moving upwards to Rs 1,616 crore on 31 March 1992 from Rs 1,315 crore as on 31 March 1991. Sanctions of guarantees aggregated Rs 53 crore and guarantees amounting to Rs 95 crore were issued during the year.

HOUSING FINANCE

The scheduled commercial banks were advised by RBI to compute their share of housing finance allocation for each year at 1.5 per cent of their respective incremental deposits of the preceding year. The banks had also been advised by RBI to provide 30 per cent of their total housing finance by way of direct lending, 30 per cent of the allocation was required to be used by way of term loans to housing finance companies, housing boards and other public housing agencies and the balance 40 per cent of the allocation was to be provided in the form of subscription to guaranteed bonds and debentures of National Housing Bank (NHB) and Housing and Urban Development Corporation (HUDCO). Banks were however permitted to exceed their individual housing finance targets to a reasonable level having regard to their resources position and compliance with the statutory reserve requirements.

During 1992-93, scheduled commercial banks were advised to continue to compute their respective share of housing finance allocation at 1.5 per cent of their incremental deposits during the previous year. As the deposits with the banks during the last year (1991-92) had shown a substantial increase, the overall housing finance target for banks for the year 1992-93 on the above basis was Rs 569 crore as against the overall quantum of Rs 365 crore earmarked for housing during the previous year. Banks are permitted to exceed their housing finance targets if their resources position so permits. Banks were also advised to designate one of their specific branches in each district for the purpose of housing finances in addition to their normal banking functions.

NATIONAL HOUSING BANK

National Housing Bank (NHB) which started its operation from July 1988, has been actively involved in the development of housing finance in the country. Its paid-up capital entirely subscribed by RBI now stands at Rs 250 crore including Rs 50 crore raised in March 1992. During 1992-93, RBI advanced to NHB loan of Rs 50 crore out of the National Housing Credit (long term operation) Fund, raising the total loan advanced out of the said

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Fund to Rs 175 crore. NHB issued its fifth series of bonds for a notified amount of Rs 45 crore guaranteed by the Central Government and carrying an interest of 13 per cent per annum. The total amount of such loans raised by NHB so far is Rs 293 crore. Under the NHB's Voluntary Deposits Scheme 1991, launched on 1 October 1991 and closed on 31 January 1992, a sum of Rs 153.77 crore was deposited, out of which Rs 61.51 crore (40 per cent) was transferred to the NHB's special fund. Under the Capital Gains Bonds Scheme of NHB, a total of Rs 155 crore was collected upto the end of June 1992 and the scheme was discontinued after 30 September 1992.

NHB crossed Rs 1,000 crore as refinance assistance in April 1992. The cumulative refinance assistance in respect of housing loans for acqusition/construction of new dwelling units including upgradation of existing units and for LD&SP amounted to Rs 1,421.76 crore till 31 December 1992. Of this Rs 123.95 crore has been provided for financing the land development and shelter projects.

Under the LD&SP scheme, NHB till 31 December 1992 has cleared a total of 104 detailed project reports with a project cost of Rs 674.03 crore. These projects will result in development of 19,032 plots and 72,899 houses. The Bank has also so far given in principle, clearance to 71 planning proposals with a project cost of Rs 554.69 crore envisaging development of 3,669 plots and 23,569 houses. The projects are located in different states namely, Andhra Pradesh, Goa, Maharashtra, Madhya Pradesh, Rajasthan, Tamil Nadu and Uttar Pradesh.

During 1992-93, two more HFCs namely, AB Home Finance Limited promoted by Andhra Bank and Cent Bank Home Finance Limited by Central Bank of India and formerly known as Apna Ghar Vitta Limited were approved by NHB for the purpose of extending financial support, increasing the number of approved HFCs to 18. NHB has participated in the equity capital of both these companies. As on 31 March 1992, the 18 HFCs (including HUDCO) approved by NHB had a net work of 246 branches, catering to housing needs in 171 out of 465 districts in India.

NABARD

National Bank for Agriculture and Rural Development (NABARD) came into existence on 12 July 1982. It took over functions of the erstwhile Agriculture Credit Department, Rural Planning and Credit Cell of the Reserve Bank of India and Agriculture Refinance and Development Corporation. Its subscribed and paid-up capital is Rs 100 crore, contributed by the Central Government and the Reserve Bank of India in equal proportions. NABARD was established for providing credit for promotion of agriculture, small scale industries, cottage and village industries, handicrafts and other allied economic activities in rural areas with a view to promoting integrated rural development and securing prosperity of rural areas.

NABARD is an apex institution accredited with all matters concerning policy planning and operations in the field of credit for agriculture and

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other economic activities in the rural areas. Its functions are to (i) serve as an apex refinancing agency for institutions providing investment and production credit for promoting various development activities in the rural areas; (ii) take measures towards institution building for improving absorptive capacity of credit delivery system including monitoring, formulation of rehabilitation schemes, restructuring of credit institutions, training of personnel, etc; (iii) coordinate rural financing activities of all institutions engaged in the developmental work at field-level and maintain liaison with Central/state governments, Reserve Bank of India and other national institutions concerned with policy formulation and also (iv) undertake monitoring and evaluation of projects refinanced by it.

NABARD's refinance is available to the state land development banks, state cooperative banks, scheduled commercial banks and regional rural banks. While the ultimate beneficiaries of investment credit can be individuals, partnership concerns, companies and state-owned corporations of cooperative societies production credit is generally given to individuals.During 1991-92 NABARD sanctioned short term credit limits aggregating to Rs 3,029 crore to state cooperative banks for financing seasonal agricultural operations as compared to Rs 3,014 crore sanctioned during 1990-91 (July-June). It has sanctioned a sum of Rs 452 crore for production/marketing of handloom products, a sum of Rs 16.5 crore for financing of other cottage and small scale industries and a sum of Rs 19 crore for purchase and sale of yarn. NABARD also disbursed Rs 295 crore as refinance assistance to Regional Rural Banks for enabling them to conduct their various activities. During 1991-92, NABARD gave a total disbursement of financial assistance of Rs 2,054 to commercial banks and other agencies.

LIFE INSURANCE CORPORATION OF INDIA

Life Insurance Corporation of India (LIC) was established on 1 September 1956, to spread the message of life insurance in the country and mobilise people's savings for nation-building activities. Prior to the nationalisation of insurance companies, 245 private insurers used to operate from 97 centres catering mostly to urban population and their total business in force stood at Rs 1,220 crore by the end of 1955. LIC with its central office in Bombay and six zonal offices at Bombay, Calcutta, Delhi, Madras, Hyderabad and Kanpur operates through 81 divisional offices in important cities and 1,774 branch offices. The Corporation also transacts business abroad and has offices in Fiji, Mauritius and the United Kingdom. LIC is associated with joint ventures abroad in the field of insurance namely, Kenindia Assurance Company Limited, Nairobi; United Oriental Assurance Limited, Kuala Lumpur and International Agencies Company Limited, Baharain. It has also entered into an agreement with the Sun Life (UK) for marketing unit-linked life insurance and pension policies in UK.

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LIC secured a new business of Rs 32,064.44 crore under 92,38,286 policies during 1991-92. With 4.64 lakh agents, it has the largest field organisation in the country. Till March 1992 the LIC's group insurance portfolio also showed a steady progress with the sum assured of Rs 32,973.46 crore under 57,510 schemes covering 192.07 lakh people. In addition to Landless Agricultural Labourers Group Insurance Scheme and Integrated Rural Development Programme Insurance Schemes which enjoy 100 per cent subsidy in premium, 21 occupations were identified for subsidy in premium, to the extent of 50 per cent. As on 31 March 1992 LIC's total income was over Rs 10,690 crore. The income comprises of premium income of Rs 6,959.92 crore, investment income of Rs 3,573.86 crore and other miscellaneous income of Rs 156.91 crore.

GENERAL INSURANCE CORPORATION OF INDIA

The general insurance industry in India was nationalised in 1971 and a government company known as General Insurance Corporation of India was formed by the Central Government in November 1972. With effect from 1 January 1974 the erstwhile 107 Indian and foreign insurers which were operating in the country prior to nationalisation,were grouped into four operating companies, namely, (i) National Insurance Co. Ltd., (ii) New India Assurance Ltd., (iii) Oriental Insurance Co. Ltd. and (iv) United India Insurance Co. Ltd. All the above four subsidiaries of GIC operate all over the country competing with one another and underwriting various classes of general insurance business including reinsurance except for aviation insurance of the national airlines and crop insurance which is handled by the GIC. These four subsidiary companies of GIC operate on all-India basis through regional, divisional and branch offices. As compared to 799 offices in 1973, the network consisted of 4,263 offices as on 31 March 1992.

The gross direct premium income of the general insurance industry written direct in India during 1991-92 amounted to Rs 3,287 crore as against Rs 2,796 crore during the year 1990-91 recording an increase of 17.5 per cent over the premium income of 1990-91. Similarly, the net premium income of the general insurance industry in India during the year 1991-92 was Rs 2,945 crore as against Rs 2,419 crore in 1990-91 representing a growth of 21.7 per cent over that of 1990-91. The gross profit of the industry rose to Rs 669 crore in 1991-92 as against Rs 482 crore in 1990-91 representing a growth of 38.8 per cent over that of 1990-91. Similarly, the net profits of the industry during 1991-92 rose to Rs 428 crore as against Rs 334 crore during 1990-91 representing a growth of 28.1 per cent over that of 1990-91 despite underwriting losses in 1991-92 amounting to Rs 77 crore.

VARIOUS INSURANCE SCHEMES

The important insurance schemes/initiatives introduced by the General Insurance Industry are as follows.

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PERSONAL ACCIDENT INSURANCE SOCIAL SECURITY SCHEME FOR POOR FAMILIES

The scheme was introduced with effect from 15 August 1985 and was extended, in phases, to 214 districts in the country upto 14 August 1988. With effect from 15 August 1988 it has been introduced in all the remaining districts and thus, the whole country now stands covered under the scheme.The scheme covers all people in the age group of 18 to 60 whose total family income from all sources does not exceed Rs 7,200 per annum. A sum of Rs 3,000 is payable to the dependents of the deceased earning member of poor families comprising landless labourers, small farmers, traditional craftsmen, etc. The entire premium cost of the scheme is borne by the Central Government and no premium is paid by the insured.

HUT INSURANCE SCHEME FOR POOR FAMILIES IN RURAL AREAS

This was introduced with effect from May 1988. The scheme provides relief to poor families in rural areas when their huts and belongings are destroyed by fire. Poor families whose annual income does not exceed Rs 4,800 are eligible under the scheme. In the event of loss due to fire, the insurance company will pay an amount of Rs 1,000 for hut and Rs 500 for belongings in the hut. The entire premium cost is borne by the Central Government and no premium is paid by the hut dwellers.

MEDICAL INSURANCE SCHEME

The scheme known as 'Mediclaim' was introduced with effect from 3 November 1986. It provides for six categories of benefits ranging from Rs 13,600 to Rs 96,500 at an annual premium ranging from Rs 200 to Rs 1,300 per person. Earlier, the scheme was available for the age group of 5 to 70 years. With effect from 15 March 1990, the minimum age limit for children has been reduced from five years to three months provided the parents of the concerned children are also covered. The policy is now available to persons above the age of 70 years also with reduced limits of benefits. The total benefit amount will be reduced by 10 per cent in respect of persons between the age of 70 and 75 years and by 20 per cent for the persons above the age of 75 years.

OVERSEAS MEDICAL INSURANCE SCHEME FOR INDIAN CITIZENS TRAVELLING ABROAD

An overseas medical insurance scheme for Indian citizens travelling abroad was introduced from 15 August 1984 by all the four subsidiaries of the General Insurance Corporation of India. The policy is granted to persons undertaking bonafide trips for business, official and professional purposes including training, assignments officially sponsored and for holidays either in groups or on individual basis. There are two plans i.e., 'Plan A' and 'Plan B' under which the policies are issued. Under 'Plan A', the benefits are upto the limit of US $ 50,000 and the countries of visits are worldwide excluding USA and

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Canada. The period of insurance is limited to 180 days under both the plans. The policy indemnifies payment of specified expenses for medical treatment taken by the insured person outside India as a result of total injury caused or sickness/disease contracted while on the overseas travel subject to the normal exclusions under the policy.

OVERSEAS MEDICLAIM POLICY FOR EMPLOYMENT AND STUDY PURPOSES

Under overseas mediclaim insurance scheme, a new policy for the purpose of employment and studies was introduced from 1 October 1991. Under this scheme students going abroad for higher studies for a period exceeding 180 days can obtain an annual policy for a maximum liability limit of US $75,000 by paying in Indian rupees. Policy for employment purpose for persons deputed abroad for execution of overseas contracts for period exceeding 180 days is also available. However, under this policy, the premium is required to be paid in foreign currency and also subject to the condition that this premium is paid out of the earnings of the foreign exchange contract of the employers.

CANCER INSURANCE SCHEME

This was introduced by New India Assurance Company Ltd. w.e.f.11 July 1985 in collaboration with the Indian Cancer Society (ICS). To be eligible for the policy, at present, one has to become a member of the ICS. The annual premium under the policy is Rs 100 and is payable alongwith Rs 100 per year by way of membership fees of ICS. The total limit for medical expenses covered is Rs 50, 000 in the aggregate which includes medical expenses for the diagnostic procedure and treatment of cancer.

MEDICAL INSURANCE SCHEME FOR THE RETIRED

An innovative medical insurance scheme for the retired known as '*Bhavishya Arogya*' to provide health security to individuals in their old age has been introduced w.e.f 1 December 1990 by the four subsidiaries of GIC. Under the scheme, a person will pay a single premium or nominal annual premium during his earning years and get reimbursement of hospitalisation and domiciliary hospitalisation expenses from a future selected age between 55 to 60 years. The amount of maximum total benefit available under the basic policy will be Rs 50,000 during the lifetime of the insured commencing from the policy retirement age and shall not exceed Rs 20,000 per any one illness or injury.

CATTLE INSURANCE

One of the major thrust areas for the benefit of the rural population is insurance of cattle and livestock like camels, sheep, goats, pigs, rabbits, poultry, ducks, quails, etc.

The procedures for settlement of claims have also been simplified in many respects. Besides cattle and livestock insurance, other insurance

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covers available for the benefits of weaker sections are: (i) composite package insurance for beneficiaries of IRDP etc. in respect of dwelling premises and other belongings, (ii) group personal accident covers for fishermen, toddy tappers, factory workers, etc., (iii) package policy for handloom weavers, (iv) cover for artisans, village, cottage and small scale industries including bio-gas plants, (v) *janta* and *gramin* personal accident, (vi) agricultural pumpsets and (vii) failure of wells, and pedal cycles and rickshaws.

CROP INSURANCE

Crop insurance scheme was conducted on an experimental basis from 1973 to 1974. From the commencement of *Kharif* 1985, a comprehensive crop insurance scheme was introduced by the Ministry of Agriculture, Government of India and administered by the GIC. The Central Government and the state governments share the premium and claims in the ratio of 2:1. The premium has been fixed at a flat rate of one per cent for oil seeds, pulses and two per cent for rice, wheat and millet. The scheme applies to all farmers securing loans from commercial, co-operative and rural banks for the cultivation of rice, wheat, millet, oil seeds and pulses in the states participating in the scheme. Initially, the sum insured was fixed at 150 per cent of the loan advanced. However, since Kharif 1988, the sum insured has been reduced from 150 per cent to 100 per cent of the crop loan subject to a maximum of Rs 10,000 per farmer.

Although the scheme covers the entire country, some of the states like Punjab, Haryana, Rajasthan and some north eastern states have not participated.

'ODD LOT' SHARES

The scheme under which small investors are able to realise full value of their 'odd lot' holdings was initially introduced in Bombay. It has now been extended to all the four metropolitan cities. These centres have been interlinked to enable 'odd lot' holders in any one of these centres to dispose off their holdings at any other centre.

GIC MUTUAL FUND

GIC Mutual Fund has been established by a deed of trust executed on 10 December 1990 as a separate trust by GIC and its four subsidiaries. The basic objective of the Fund is to mobilise savings from the public and channelise them to the capital market with a view to providing safety, return and liquidity to the investors. The first two schemes launched by the Fund were (i) GIC Safe, 1991- a special double benefit scheme with comprehensive householders policy and attractive return and (ii) GIC Rise, 1991- a unique double benefit scheme with rising returns and eligiblity for housing loans. A further new scheme 'GIC Rise II' was launched on 10 October 1991. This scheme contained an attractive array of high return under two options, monthly and cummulative, with additional benefits and innovative features.

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GIC 'GRIH VITTA LTD.

A housing finance company known as 'GIC *Grih Vitta*' Ltd. (GGVC) has been set up by the GIC with a view to providing long term finance by way of loans for construction/purchase of houses/flats for residential purposes to individuals. The paid-up capital of the company is Rs 5.00 crore which has been subscribed by the GIC, its four subsidiaries and ICICI, IFCI, UTI, HDFC and SBI. The company has set up eight service centres at Bombay, Calcutta, Delhi, Madras, Bangalore, Lucknow, Hyderabad and Panaji and propose to set up more such centres in future.

INSURANCE AS A SUBJECT

The GIC, in collaboration with the Central Board of Secondary Education, has introduced general insurance subjects in the vocational stream at 10+2 level in some selected schools in the country from 1988-89 session. In the two years course at the plus two level, various general insurance subjects are taught. Successful students with 50 percent of marks are appointed as apprentice assistants and are paid stipend of Rs 1000 per month for one year. Thereafter, subject to satisfactory performance, they are appointed as assistants in regular grade. After three years of service as assistants, they can appear for departmental test for promotion to officers' cadre.

SOLATIUM FUND

Solatium Fund Scheme which provides compensation to victims of hit-and-run road accidents where the vehicle cannot be identified, was being administered by Ministry of Surface Transport. Effective from 1 July 1989, GIC is administering the scheme through its four subsidiary companies. Benefits under the scheme (as per new Motor Vehicle Act) have also been enhanced from Rs 1,000 to Rs 2,000 in case of grievous injury and from Rs 5,000 to Rs 8,500 in case of loss of life.

GIC'S INVESTMENTS

Total investment made by the industry was Rs 61,270 million as on 31 March 1992 and income from investment for the year was Rs 77.40 crore and yield rate being 13.5 per cent. Following Bhopal gas tragedy, there has been an increased awareness of public liability insurance and the industry has devised public liability insurance policy for covering industrial accidents to suit the requirements of insuring institutions. The question of enacting a suitable legislation for introduction of mandatory public liability insurance for hazardous chemical industries has been under consideration of the Government also and accordingly Public Liability Insurance Act, 1991 has come into force w.e.f 1 April 1991 in terms of which all units handling hazardous substances are required to take out insurance policies by 31 March 1992. Besides, the industry has also devised product liability cover for domestic products as well as export products.

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LOSS PREVENTION ASSOCIATION OF INDIA

The general insurance industry is supporting Loss Prevention Association of India Ltd. which is active in the promotions of loss preventions in various fields in the country.

FOREIGN INVESTMENT POLICY

Foreign Investment Policy has been substantially liberalised. The Reserve Bank of India has been empowered to give approvals for direct foreign investment upto 51 per cent foreign equity in high priority industries if foreign equity covers the foreign exchange requirements for imported capital goods and the company balances dividends for a period of seven years. However the general condition of dividend balancing has been withdrawn for items other than consumer goods. To provide access to international market majority foreign equity holding upto 51 per cent equity has been allowed in trading companies primarily engaged in export activities. No permission is necessary now for hiring foreign technicians and full powers have been delegatged to RBI to authorise payments. Existing companies have also been allowed to increase their existing foreign equity upto 51 per cent provided the expansion is in the high priority areas. Since 29 June 1992 existing companies have been allowed to raise equity upto 51 per cent at prices determined by the share holders. And since 15 September 1992 disinvestment by foreign investors has been permitted at the market prices on the stock exchanges. On 13 April 1992 India has signed the Multilateral Investment Guarantee Agency protocol for the protection of foreign investment.

Through notification, the Reserve Bank of Inida has granted general permission to FERA companies i.e. companies with more than 40 per cent non-resident interests to accept appointment of an agent, technical or management adviser of any person or company in India to permit its trade marks to be used and to carry on in India any activity of trading of commercial or industrial nature. FERA companies have also been granted general permission to borrow money and accept deposits in India as also to deal in immovable properties. Foreign companies can now open liaison offices and branches in India by applying to the Reserve Bank of India. Now the foreign companies have been allowed to use their trade marks for domestic sales.

FOREIGN INSTITUTIONAL INVESTORS (FIIs)

To encourage FIIs for portfolio investment these measures have been taken: FIIs (*viz.*, pension funds, mutual funds, investment trusts, asset management companies, nominee companies and incorporated institutional Portfolio managers etc.,) have been allowed to invest in the securities traded on the primary and secondary markets provided they register with Securities and Exchange Board of India (SEBI) and obtain Reserve Bank of India (RBI) approvals under FERA. These investments are subject to five per cent upper

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limit for any FIIs holding in a company and 24 per cent limit to all FIIs together in one company. The Indian corporate sector has been encouraged to access global capital markets through Global Depository Receipts.

UNIT TRUST OF INDIA

The Unit Trust of India (UTI) established as a statutory corporation in February 1964 under the Unit Trust of India Act, 1963, commenced its operations from 1 July 1964. The UTI mobilises the savings of the community by selling units and invests the funds in shares and other securities. Today, UTi has become a trust of over 2.9 crore unit holders and manages over Rs 38,000 crore as compared to Rs 500 crore on 30 June 1990. It caters to savings of various income groups for their diverse investment needs, and has, so far, introduced 64 different schemes or plans.

UTI launched its first open-ended scheme in 1964, US-1964 and even today it has remained its most important scheme. Since then it has issued several fixed income schemes as well as growth schemes, the most popular being *Master Share* and *Mastershare Plus*. With the confidence it enjoys amongst the investing public, UTI commands three-fourths of the business of the mutual fund industry in India. UTI's corporate office is in Bombay, with four zonal offices at Bombay, Calcutta, Madras and New Delhi. It has 41 branch offices in various parts of the country. Its marketing force consists of over 304 chief representatives with over 88,000 agents working under them. In 1991-92 UTI mobilised over 88,000 agents working under them. The *Mastergain 92* launched in April 1992 was very successful in which UTI mobilised Rs 4,500 crore from 65 lakh investors. UTI is at present managing two country funds of India. The first called The India Fund was launched abroad by the UTI and Merrill Lynch Capital Markets in July 1986, for enabling non-resident Indians and other persons outside India to invest in the securities market of India. The shares of the Fund are listed on the London Stock Exchange and the second fund called The India Growth Fund Inc was launched abroad by the UTI and Merrill Lynch in August 1988. This Fund is registered with the Securities and Exchange Commission (SEC) of the United States. The shares of the funds are listed on the New York Stock Exchange.

Recently UTI promoted a new venture *viz*, Unit Trust Management of Sri Lanka. Apart from UTI, Bank of Ceylon, Warleys and Carson Cumberbatch, Sri Lanka are also participating in this venture. In addition to participating in the equity capital of the new venture, UTI would provide technical and management support in designing and marketing of schemes, operational and system design with computer support as well as fund management. Apart from mobilization of funds, UTI has become the single largest investor in the Indian stock markets, and is provider of large amount of resources to industry for industrial development of the country.

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NON-RESIDENT INDIANS INVESTMENTS

Government attaches great importance to investment by non-resident Indians and has been taking a number of steps to make such investments attractive. The policies and schemes framed to attract investment by NRIs are continuously reviewed in the light of suggestions received from different quarters including NRIs and NRI organisations. With this end in view the new Government announced several attractive schemes in the Budget of 1991-92. These are as follows:- (i) Ceiling on direct NRI investment on repatriation basis has been raised from 74 per cent to 100 per cent. Such investment can be made in high priority industries, hotels and tourism related industry, hospitals, advanced diagnostic centres, shipping, export oriented deep sea fishing industry and oil exploration services. Investment upto 100 per cent also possible in 100 per cent EOUs, units in free trade zones and in sick units; (ii) RBI now grants automatic clearance to NRI investment proposals in high priority industries provided foreign equity covers the foreign exchange requirement for imported capital goods and the locational policy of the Government is satisfied; (iii) NRIs can now invest in financing of housing development, real estate and infrastructure areas on repatriation basis; (iv) the ceiling on total NRI portfolio investment in an Indian company has been raised from 5 per cent to 24 per cent; (v) government has approved the proposal to establish the office of the Chief Commissioner for NRIs for facilitating interaction between NRIs and different government agencies; (vi) action has been initiated to exempt foreign nationals of Indian origin from the purview of Section 31 of FERA for acquiring house property (vii) a scheme of India Development Bonds was launched in October, 1991 in which NRIs could invest in US dollars and pound sterling. The scheme which closed on 31 January 1992 has netted US$ 1,297 million and pound sterling 179.82 million;(viii) a scheme of foreign exchange remittances was floated in September, 1991 under which any amount of foreign exchange could be remitted into India without disclosing its source. Amongst others, NRI can also make use of this facility. The scheme closed on 31 January 1992 and an amount of Rs 1,237 crore has been collected; (ix) NRIs can invest on non-repatriation basis without any ceiling in partnership and proprietorship concerns irrespective of the nature of their activity, except investment in agriculture. Similarly, investment without limit in new issues of shares of public and private limited companies engaged in industrial manufacturing or trading activities is also allowed; (x) investment opportunities in UTI units, central/state government securities, national plan savings certificate are available on repatriation basis. Non-repatriation investment in PSU bonds and mutual funds is allowed; (xi) NRI's can make deposits in Foreign Currency Non-Resident (FCNR) and Non Resident (External) Rupee Account (NRER) accounts which fetch attractive returns. Deposits in FCNR accounts can now be maintained till maturity by NRIs even after their return to India. The Government has also announced a new foreign currency resident account scheme which can be availed of by returning NRIs in lieu of the existing

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RIFEE's scheme and (xii) special status of NRIs has been given to evacuees from Kuwait upto 30 June 1992. Second series of NRI bonds was launched in 1990 which fetched $ 257.5 million approximately.

STOCK EXCHANGES

Stock exchanges play an important role in the mobilisation of financial resources for the corporate sector. They provide an organised market for transactions in shares and other securities. There are at present 23 stock exchanges in the country, which are recognised by the Government under the Securities Contracts (Regulation) Act, 1956. These exchanges are located at Bombay, Calcutta, Madras, Delhi, Ahmadabad, Ludhiana, Kanpur, Jaipur, Indore, Pune, Hyderabad, Bangalore, Cochin, Guwahati, Mangalore, Patna, Bhubaneswar, Rajkot, Vadodara, Coimbatore and Meerut. The registered office of the National Stock Exchange Limited, which was granted recognition on 26 April 1993, is in Bombay. It is expected to function as a model stock exchange with an automated screen based system, which will render services to the investors in the whole country.

Stock exchanges are managed by their governing boards and executive directors. However, the stock exchanges function under the overall regulation of the Ministry of Finance and the Securities and Exchange Board of India.

SECURITIES AND EXCHANGE BOARD OF INDIA

The Securities and Exchange Board of India (SEBI) was initially constituted on 12 April 1988, as a non-statutory body through a resolution of the Government. The main function of the SEBI is to deal with all matters relating to development and regulation of securities market and investor protection and to advise the Government on all these matters. SEBI was given statutory status and powers through an Ordinance promulgated on 30 January 1992. The Ordinance provided for the establishment of a Board to protect the interests of investors in securities and to promote the development of and to regulate the securities market. The Ordinance was replaced by an Act of Parliament on 4 April 1992. Under the Act, SEBI has been assigned the following main functions: (a) regulating the business in stock exchanges and any other securities market; (b) registering and regulating the working of stock brokers, sub-brokers, share transfer agents, bankers to an issue, trustees of trust deeds, registrars to an issue, merchant bankers, underwriters, portfolio managers and other intermediaries associated with the securities markets; (c) registering and regulating the working of collective investment schemes including mutual funds; (d) promoting and regulating the self-regulatory organisation; (e) prohibiting fraudulent and unfair trade practices relating to securities markets; (f) promoting investors' education and training of intermediaries of securities market; (g) prohibiting insider trading in securities and (h) regulating substantial acquisition of shares and takeover of companies.

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During the period between April 1988 when SEBI was constituted as a non-statutory Board, and 21 February 1992, when it was constituted on a statutory basis SEBI focused its attention on the preparation of a draft legislative framework for the regulation and development of the securities market, monitoring of the functioning of the stock exchanges and regulation of merchant bankers and mutual funds. SEBI finalised the format of abridged prospectus in consultation with the Department of Company Affairs (DCA). In order to mitigate the problems of delay/non-receipt of refund orders faced by the investors in the capital issues, SEBI finalised, in consultation with the DCA, a new instrument called "Stock-Invest".

After SEBI was constituted on a statutory basis, it has initiated several measures for the development and regulation of the securities market. Rules and regulations for stock brokers, merchant bankers, portfolio managers, registrar to an issue and share transfer agent have already been notified. Statutory regulations in respect of mutual funds and insider trading have also been notified.

Consequent on the repeal of the Capital Issues (Control) Act, 1947, on 29 May 1992, SEBI had issued on 11 June 1992, guidelines for companies making issues of capital for ensuring proper disclosure and investor protection. In pursuance of the Government guidelines for investments by foreign institutional investors issued in September 1992, SEBI has started the registration of foreign institutional investors. Under the Regulations for Mutual Funds notified under the Act, SEBI has so far granted in principle approvals for setting up of about 13 new mutual funds, most of them being in the private sector. SEBI has also taken a number of measures to bring in improvement in the working of stock exchanges. Longer and uniform trading hours have been introduced in the stock exchanges. SEBI issued a statutory order dated 20 April 1993, to stock exchanges directing them to amend their Rules/Articles of Association for broad basing their governing bodies.

MINTS AND PRESSES

India Security Press, Nasik Road consists of two units—stamps press and central stamps depot. Stamp press prints postal stationery, postal and non-postal and impressed stamps, judicial and non-judicial stamps, cheques, bonds and other security documents like passports, etc., besides a number of miscellaneous security items required by the Central and state governments and quasi-government organisations. Central stamp depot distributes finished products made by the stamp press to various indentors. Currency Note Press, Nasik Road prints and supplies currency notes of one rupee and bank notes of rupees two, five, fifty and hundred denominations. Security Paper Mills, Hoshangabad manufactures paper for making currency bank notes and other security paper. Bank Note Press, Dewas consists of two production units, *viz.*, main press for printing bank notes of the denominations of rupees twenty, fifty, hundred and five hundred and ink factory for

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the manufacture of security inks. Security Printing Press, Hyderabad, prints postal stationery and other security forms for the southern states.

Mints at Bombay, Calcutta, Hyderabad and NOIDA mint coins to meet the country's requirements. Bombay mint also undertakes refining of gold for licensed gold dealers and production of medals for defence services institutions, etc. The mint also manufactures working standards of weights and measures, for various states. Calcutta and Hyderabad mints besides minting coins, manufacture medals for various government departments.

EXPENDITURE

ESTABLISHMENT DIVISION

The Establishment Division is the nerve centre for the entire gamut of the service conditions of the Central Government employees having financial content. Its activities are therefore spread right over a vast spectrum of their sevice conditions right from the date of appointment to the date of retirement. Basically, these include revision/prescription of pay and scales, fixation of pay and various allowances. The proposals received from various ministries/departments of the Government of India seeking clarification in regard to revision of pay scales, prescription of pay scales, increments, deputation allowance and cadre review of various categories of posts are examined in this Division keeping in view the equity and comparable relativities among various groups of the Government employees with reference to their functions, responsibilities and duties.

PLAN FINANCE I DIVISION

Plan Finance-I Division handles matters relating to finances and plan outlays of states. It releases Central assistance to states for their plans (including for externally aided projects), hill area development programme, border area development programme, plan and non-plan revenue deficit grants and Centre's share to the calamity relief fund (CRF) of the states. For the year 1992-93, revised estimates of Central assistance to states for their Annual Plan amounted to Rs 13,554.35 crore (including Rs 290 crore for special assistance for the development of hill areas and Rs 52.00 crore for border area development programme). Against this, Rs 13,258.30 crore was actually released during 1992-93 on the basis of the provisional expenditure details furnished by the states. Futher, plan and non-plan revenue deficit grant of Rs 2,962.02 crore and Centre's share to the (CRF) of the states of Rs 691.32 crore were also released to them. In addition, a grant of Rs 12.225 crore was also released to Madhya Pradesh during 1992-93 for Bhopal Gas Targedy Action Plan.

PLAN FINANCE II DIVISION

Plan Finance II Division deals with all matters relating to the Central plan. These cover the estimates of resources for Central plan including internal

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and extra-budgetary resources, plan out-lays of different ministries/departments of the Central Government, appraisal of plan projects/schemes before they are submitted to Public Investment Board (PIB)/Expenditure Finance Committee (EFC), etc.

The Division is also the secretariat of the PIB. The PIB considers investment proposals of the Central Government ministries in regard to their public sector undertakings. Under the existing guidelines, Central sector projects costing rupees 50 crore and above are considered by PIB. The projects costing over Rs five crore but less than Rs 50 crore are considered by the EFC. Secretary (Expenditure) is the Chairman of the PIB and Joint Secretary (Plan Finance II) acts as the Secretary to the Board. Besides its role of an "Appraisal Agency" in all projects, schemes considered by PIB/EFC, Plan Finance Division processes notes for Cabinet/CCEA for obtaining Finance Minister's concurrence.

During the period between 1 January to 31 December 1992, 22 meetings of PIB were held and 47 projects with a total capital cost of Rs 44,468.18 crore were recommended for approval.

Estimation of internal and extra-budgetary resources for financing the Annual Plan of the Central public sector undertakings is an important activity of the Plan Finance II Division. Before the commencement of the Annual Plan discussions by the Planning Commission, the Plan Finance Division obtains the details of estimates of receipts and expenditure of different public sector undertakings from the financial advisers and in consultation with the representatives of the administrative ministries. Planning Commission and public sector undertakings, prepare the estimates of internal resources available from the public sector undertakings, for their annual plan.

FINANCE COMMISSION

Under the Constitution, a Finance Commission is to be constituted every fifth year or at such earlier time as the President considers necessary to make recommendations to the President as to (i) the distribution between the Union and the states of the net proceeds of taxes which are to be, or may be divided between them and the allocation between the states of the respective shares of such proceeds; (ii) the principles which should govern the grants-in-aid of the revenues of the states in need of such assistance out of the Consolidated Fund of India and (iii) any other matter referred to the Commission by the President in the interest of sound finance. The recommendations of the Commission together with an explanatory memorandum as to the action taken thereon are laid before each House of Parliament. So far nine Finance Commissions have submitted their reports. The Tenth Finance Commission was constituted on 15 June 1992.

The Ninth Finance Commission submitted two reports. The first report for 1989-90 was submitted in July 1988. The second report covering the five year period commencing on 1 April 1990 was submitted in December 1989.

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In its Second Report, the Commission has recommended transfer of Rs 1,06,036 crore by way of share in Central taxes and duties and grants-in-aid. The scheme of devolution of taxes and duties confers net non-Plan surplus of Rs 38,032 crore in 11 states. The Commission has recommended grants-in-aid of revenues of certain states under substantive provision of Article 275 (1) of the Constitution towards meeting their non-Plan revenue gap as assessed by the Commission for five years-1990-95. These grants aggregate to Rs 6,016 crore. The grants-in-aid recommended by the Commission to certain states to cover a part of the deficit of such state governments on Plan account for the years commencing from 1 April 1990 aggregate to Rs 9,001 crore. These grants will be taken into account by the Planning Commission as a resource for financing states' plans.

The Commission has recommended that the share of the states in the proceeds of income tax should be 85 per cent and recommended criteria for *inter-se* distribution among the states. Regarding Union Excise Duties, the Commission while relating the states share at 45 per cent recommended a separate formula for its distribution among the states. The other important recommendations of the Commission included (a) quantum and principles of distribution of the grant in lieu of tax on railway passenger fares; (b) constitution of a calamity relief fund for financing relief expenditure; and (c) debt relief.

The recommendations of the Finance Commission regarding devolution of taxes and duties, grants-in-aid to cover Non-Plan gap on revenue account and part of deficits on Plan revenue account, financing of relief expenditure have been accepted by the Government. In regard to debt relief, Government has accepted the recommendations relating to write off/rescheduling and elongation of the maturity period of future Central loans for state plans from 15 years to 20 years with 50 per cent loans enjoying a grace period of five years. The recommendations of the Commission relating to grants in lieu of tax on railway passenger fares have also been accepted by the Government.

Finance Commission Division of the Department of Expenditure, Ministry of Finance is concerned with all aspects of Finance Commission's recommendations. It functions as the Secretariat of the Inter-Ministerial Empowered Committee for monitoring the progress of utilisation of upgradation grants-in-aid recommended by Eighth Finance Commission and Ninth Finance Commission (First Report for 1989-90).

TENTH FINANCE COMMISSION

The Tenth Finance Commission has been constituted on 15 June 1992, in pursuance of the provision of Article 280 of the Constitution of India and of the Finance Commission (Miscellaneous Provisions) Act, 1951 (33 of 1951). The Commission shall make recommendations relating to the following matters: (a) the distribution between the Union and the states of the net proceeds of taxes which are to be, or may be divided between them under

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Chapter I of Part XII of the Constitution and the allocation between the states of the respective shares of such proceeds and (b) the principles which should govern the grants-in-aid of the revenues of the states out of the Consolidated Fund of India and the sums to be paid to the states which are in need of assistance by way of grants-in-aid of their revenues under Article 275 of the Constitution for purposes other than those specified in the provisons to clause (1) of that Article.

In making its recommendations, the Commission shall have regard, among other considerations to: (i) the objective of not only balancing the receipts and expenditure on revenues account of both the states and the Central Government, but also generating surplus for capital investment and reducing fiscal deficit; (ii) the resources of the Central Government and the demands thereon, in particular, on account of expenditure on civil administration, defence and border security, debt-servicing and other committed expenditure or liabilities; (iii) the maintenance and upkeep of capital assets and maintenance expenditure on plan schemes to be completed by 31 March 1995 and the norms on the basis of which specified amounts are recommended for the maintenance of the capital assets and the manner of monitoring such expenditure; (iv) the requirements of states for modernisation of administration, e.g. computerisation of land records and providing faster channels of communication upto and above district level, and for upgrading the standards in non-developmental sectors and services, and the manner in which such expenditure can be monitored; (v) the revenue resources of the states for the five years commencing on 1 April 1995, on the basis of the levels of taxation likely to be reached in 1993-94, targets set for additional resource mobilisation for the Plan and the potential for raising additional taxes; (vi) the requirement of the states for meeting the non-plan revenue expenditure also keeping in view the potential for raising additional taxes; (vii) the tax efforts made by the states; (viii) the need for ensuring reasonable returns on investment by the states in irrigation projects, power projects, state transport undertakings, departmental commercial undertakings, public sector enterprises, etc.; and (ix) the scope for better fiscal management consistent with efficiency and economy in expenditure.

The Commission may suggest changes, if any, to be made in the principles governing the distribution of: (a) the net proceeds in any financial year of the additional excise duties leviable under the Additional Duties of Excise (Goods of Special Importance) Act, 1957, in replacement of the sales tax levied formerly by the state governments and (b) the grants to be made available to the states in lieu of the tax under the repealed Railway Passenger Fares Act, 1957

The Commission shall make its report available by 30 November 1993, on each of the matters aforesaid, covering a period of five years commencing on 1 April 1995.

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COST ACCOUNTS BRANCH

The Cost Accounts Branch (CAB) is a cost and pricing organisation of the Central Government attached to the Ministry of Finance, Department of Expenditure. This organisation was set up by the Government of India during World War II when defence contracts had to be placed on cost plus basis and the cost and price had to be verified by an independent Government agency.

After Independence and with the growth of industrialisation, the role of the organisation changed and it became a body to render professional assistance to different ministries, committees and other agencies of the government in cost and management accountancy. This Branch is manned by officers who are professionally qualified cost accountants and chartered accountants and they are members of the Indian Cost Accounts Service (ICAS), a Group 'A' service constituted by Government of India in 1982. The needs of other ministries—Industry, Commerce, Petroleum and Natural Gas, Central Excise etc. are also met by this Branch by posting ICAS officers to these ministries on a participating basis. The officers of this Branch also serve as members of various standing specific committees constituted by different Government departments from time to time.

CONTROLLER GENERAL OF ACCOUNTS

The Controller General of Accounts is the apex accounting authority of the Central Government and exercises the powers of the President under Article 150 of the Constitution for prescribing the form of accounts of the Union and state governments on the advice of the Comptroller and Auditor General of India. The functions of the Controller General of Accounts include *inter alia,* the framing of rules, regulations etc., in the field of accounts and internal audit, the publication of Account Codes and Manuals, issue of periodical instructions, circulars and cadre management of civil accounts personnel. Holding of Junior Accounts Officers examination for Central Government ministries/departments, cabinet secretariat and union territories (Delhi, Andaman and Nicobar Administrations) are also some of the functions handled by the Office of the Controller General of Accounts.

The organisation of the Controller General of Accounts is also responsible for Government disbursements and banking arrangements for the various ministries/departments of the Government of India. The Controller General of Accounts has been closely studying and monitoring the extent system significant improvements have been brought about in the reconciliation of cash balances of the Government with the RBI as far as civil ministries are concerned. Efforts are underway to extend these improvements to other self-accounting Ministries of Railways, Defence and Posts and Telecommunications.

Union Government Accounts (Finance and Appropriation Accounts) for 1990-91 were submitted to the Comptroller and Auditor General of India for audit in December 1991 and January 1992 and these accounts

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alongwith the Report of the Comptroller and Auditor General of India were laid before the Parliament during the Budget Session on 5 May 1992. A publication entitled 'Accounts at a Glance 1990-91' was brought out bringing out broad and significant features of Government receipts and expenditure.

The office of the Controller General of Accounts is responsible for consolidation of accounts of the union government. Personal computers have been installed in the principal accounts office of civil ministries/Departments to speed up the processing of their respective accounts. Vouches level computerisation at pay and accounts offices recorded further progress during 1992-93.

DIRECT TAXES

Direct taxes play a significant role in the tax system not only as a revenue source but as a powerful instrument for achieving social and economic objectives. Firstly, direct taxes help make tax system progressive and reduce disparities in distribution of income and wealth. Secondly, they subserve the strategy of planning in many ways. Differential taxation of savings in specified assets helps promote savings and induce flow of investment into desirable channels. In India, both income tax as well as taxes on capital, are designed to serve these objectives.

The Income Tax Department administers a number of direct taxes Acts, namely, the Income Tax Act, 1961, the Wealth Tax Act, 1957, the Gift Tax Act, 1958, the Estate Duty Act, 1953 (discontinued in respect of death on or after 16 March 1985), the Companies (Profit) Surtax Act, 1964, (discontinued from 1 April 1988), the Hotel Receipts Tax Act, 1980, (levy discontinued from 28 February 1982), and the Expenditure Tax Act, 1987. Table 13.6 gives figures of revenue collection under the various major direct taxes and table 13.7 shows incidence of income tax at selected levels.

COMBATING TAX EVASION

The Income Tax Department is continuously taking necessary legislative and administrative steps from time to time to curb/control black money. It is also continuously striving to check tax evasion and accumulation of unaccounted wealth. In pursuance of this objective, systematic surveys, search and seizure operations, verification of information by Central Information Branches in a planned manner and scrutiny of selected cases are undertaken. Persons found to be indulging in tax evasion are dealt with severely by imposing penalties and by launching prosecution proceedings against them. Results achieved in searches and surveys during last four financial years and statistics for prosecutions launched are as under:

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SEARCHES

Year	No. of searches	Value of assets seized (Rs in crore)	Amount of concealed income surrendered (Rs in crore)
1988-89	7, 505	152.70	249.35
1989-90	3, 984	128.02	193.44
1990-91	5, 474	227.87	328.01
1991-92	3, 468	179.84	188.35

SURVEYS

Year	No. of premises surveyed	No. of new assessess added
1988-89	7, 29, 459	4, 98, 176
1989-90	8, 17, 803	4, 67, 711
1990-91	8, 92, 438	5, 23, 052
1991-92	9, 98, 176	4, 75, 487

STATISTICS FOR PROSECUTION

Year	No. of prosecutions launched	No. of cases decided	No. of cases of conviction	No.of cases compounded	No. of cases of acquittal
1989-90	8, 929	638	181	223	234
1990-91	3, 786	2, 309	174	137	1, 698
1991-92	2, 448	487	165	153	169
1992-93 upto Dec 1992	471	411	81	228	102

TABLE 13.6 DIRECT TAXES

(Rs crore)

Taxes	Amounts of revenue collected			
	1988-89	1989-90	1990-91	1991-92
Corporation Tax	4, 407.21	4, 729.00	5, 335.00	7, 853.00
Income Tax	4, 241.00	5, 010.00	5, 376.00	6, 729.00
Wealth Tax	115.06	178.51	232.05	306.31
Gift-tax	5.59	8.06	3.26	8.52
Expenditure-tax	36.58	71.63	83.39	131.42

TABLE 13.7 INCIDENCE OF INCOME TAX AT SELECTED LEVELS (CASES OF INDIVIDUALS-FINANCIAL YEAR 1992-93)

Net Income (Rs)	Tax (Including Surcharge)	Effective Rate (per cent)
28,000	NIL	NIL
30,000	400	1.33
35,000	1, 400	4
40,000	2, 400	6
45,000	3, 400	7.55

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50,000	6, 600	13.2
55,000	8, 100	14.72
60,000	9, 600	16
65,000	11,100	17.07
70,000	12,600	18
75,000	14,100	18.8
80,000	15,600	19.5
85,000	17,100	20.11
90,000	18,600	20.66
95,000	20,100	21.15
1,00,000	21, 600	21.60

INDIRECT TAXES

Customs and central excise are the two important sources of the Central Government tax revenue which account for about 72 per cent of the tax revenue of the Union. The figures of revenue collection in respect of these two duties during the last three years are given in table 13.8.

TABLE 13.8 REVENUE FROM EXCISE AND CUSTOMS

(Rs crore)

YEARS	CUSTOMS	EXCISE
1990-91	20, 644	24, 514
1991-92	22, 257	28, 110
1992-93 RE	25, 500	32, 500

Fiscal accounts figures.

RE- Revised Estimates.

Taxation measures aim to achieve reforms in the structure of customs and central excise duties and are designed to achieve the objectives of economic growth, equity, simplicity and built-in resource mobilisation capacity.

The Government of India on 29 August 1991 constituted a high level committee of experts in order to examine the structure of direct and indirect taxes and make recommendations *inter-alia* for making the tax system fairer and broad-based, and also to suggest measures required for simplifying and rationalising customs tariffs and structure of excise duties for better tax compliance and administration.

In respect of customs tariff, the process of reducing import duties initiated in 1991-92 budget was continued in 1992-93 budget. The major emphasis in the changes has been on the stengthening of the economy in the interest of growth and exports.

SALES TAX WING

Sales tax is the most important source of revenue of the states. Levy of taxes on sale or purchase of goods taking place within a state is state subject. Administration of the Central Sales Tax Act, 1956, under which tax is levied on inter-state sale of goods has been entrusted by law to the state governments who collect and retain the proceeds of such tax. Total collection of sales-tax covering central sales tax, tax on motor spirit and purchase tax on sugarcane

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during 1992-93 is estimated at Rs 23, 937 crore. Total collection of additional excise duty in lieu of sales-tax during 1992-93 on sugar, tobacco and textiles is estimated at Rs 2, 265 crore.

ANTI-SMUGGLING DRIVE

Drive against smuggling, tax evasion and other economic offences includes, among others, strengthening of the existing intelligence network against smugglers and their activities, improving surveillance and surprise checks of vulnerable areas, giving special attention to post-seizure operations such as adjudication disposal of confiscated goods and prosecution etc. Narcotic Control Bureau, a separate authority was also created during 1986 for coordinating efforts in preventing and combating trafficking in narcotic drugs and psychotropic substances. Government has also initiated steps to curb open display and sale of goods of foreign origin.

In addition to tackling of outright smuggling of contraband goods, customs authorities take strict action against certain companies in the organised sector indulging in tax evasion, import-export frauds, misuse of duty exemption scheme, evasion of customs excise duty and foreign exchange violations. As a result of various anti-smuggling measures taken,goods worth Rs 480.40 crore were seized during 1992.

OPIUM AND POPPY

India is the largest producer and exporter of opium in the world. Cultivation of poppy and production and export of opium are under the exclusive control of the Central Government. The Central Government has taken a number of steps to reduce the huge stocks of opium which had accumulated because of gradual addition of over more than a decade. Due to this we have now reached a stage where yearly domestic production of opium is less than the quantity exported and indigeneously consumed. During 1991-92,India had exported about 617 metric tonnes of opium while the quantity of opium produced was 495 mts.

CORPORATE SECTOR

First company legislation in India was an Act for registration of joint stock companies enacted in 1850. This was followed by the Companies Act, 1913. As a result of recommendations of a committee under the chairmanship of C.H.Bhabha to make suggestions for company law, reform,the Companies Act, 1956 was enacted as a Central legislation. Prior to enactment of this Act, administration of companies' legislation was the responsibility of state governments.

The Companies Act , 1956 has been in force for the last 37 years and during this period it has been amended over 16 times. Amendments of 1969, 1974, 1977 and 1988 are of special importance. By the amendment Act of 1969, system of appointing managing agencies or secretaries or treasurers in companies was abolished. Under the 1974 amendment, powers of High Court relating to certain Sections of the Companies Act were transferred to Company Law Board. Scope of Section 43A was enlarged so as to treat large private limited companies as deemed public

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limited companies. A new Section 58 A was inserted to regulate acceptance of deposits by companies. Section 108A to Section 108 H were introducted to check take-over bids by large groups. The 1977 amendment inserted, *inter alia*, Section 634A enabling Company Law Board to enforce its orders under Section 17, 18, 19, 79, 141 and 186 of the Act as a decree of a court of law. The Companies Act, 1956 provides various powers to Central Government and Company Law Board to monitor, regulate and control the affairs of companies. Salient features of the 1988 amendments are : (a) setting up of an independent Company Law Board to exercise such judicial and quasijudicial functions as are presently being excercised either by court or Central government and proposed to be transferred to that Board; (b) dispensing with Government approval for managerial appointments and remuneration, subject to fulfilment of certain statutory guidelines which are proposed to be incorporated in the Act itself; (c) delinking of rates of depreciation from rates specified under the Income-Tax Act and laying down rates of depreciation in the Act itself to reflect true and fair view of the state of affairs of the company; (d) protecting the interest of investors by providing for intervention by Company Law Board against non-payment of public deposits and certain other matters, compulsory redemption of preference shares in certain cases, requiring companies to disclose reasons for refusal to register transfer of shares, protecting the rights of the transferee pending mutation of his name in the register of members, and also compulsory listing of all public issues; (e) reducing unnecessary cost or burden by requiring companies to attach only an abridged version of balance sheets and auditors' report to members and (f) provision for disclosure of information relating to conservation of energy, technology absorption, foreign exchange earnings and outgo as well as particulars of employees having some minimum stake in the company and drawing remuneration in excess of that drawn by managerial personnel.

The number of joint stock companies, both government and non-government, incorporated under the Companies Act, 1956 and at work in India as on 31 March 1992 was 2,53,390. Of these, 2,50,361 were limited by shares, 330 with unlimited liability and 2,192 were limited by guarantee or were associations not for profit. The 2,50,361 companies limited by shares has a paid-up capital of Rs 78,896. 7 crore. These comprised 29,777 public limited companies and 2,20,584 private limited companies with paid-up capital of Rs 40,868.5 and Rs 38,028.2 crore respectively. Table 13.9 shows the number of companies and paid-up capital (government and non-government taken together).

NEW REGISTRATIONS

During 1991-92, 26,233 companies were registered under the Companies Act. These included seven government companies and 26,138 non-government companies with liability limited by shares, 13 non-government companies with unlimited liability and 75 non-government companies with liability limited by guarantee and associations not for profit. Of the 26,145 companies limited by shares registered during the year, 2,293 were public

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TABLE 13.9 COMPANIES AT WORK

As on 31 March	Companies Limited by Shares						Companies with unlimited Liability (Number)	Companies Limited by guarantee and associations not for Profit (Number)
	Public Limited		Private Limited		Total			
	Number	Paid-up Capital (Rs crore)	Number	Paid-up Capital (Rs crore)	Number	Paid-up Capital (Rs crore)		
1989[1]	24,282	24,753.9	1,56,046	32,949.6	1,80,328	57,703.5	319	1,954
1990[1]	25,755	31,059.4	1,76,373	33,583.9	2,02,128	64,643.3	302	2,041
1991[1]	27,358	38,567.8	1,97,094	36,230.1	2,24,452	74,797.9	317	2,117
1992[2]	29,777	40,868.5	2,20,584	38,028.2	2,50,361	78,896.7	330	2,192

1. Revised
2. Provisional

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limited companies with an aggregate authorised capital of Rs 1,883 crore and 23,852 were private limited companies with an aggregate authorised capital of Rs 2,521 crore.

NEW CAPITAL ISSUE

Section 60 of the Companies Act requires that prospectuses issued by or on behalf of the companies, or in relation to an intended company inviting offers from the public for the subscription purchase of any shares or debentures be delivered to the Registrar of Companies for registration. Section 67(3) provides that if the offer or invitation can properly be regarded as not being calculated to result, directly or indirectly, in the shares or debentures becoming available for subscription or purchase by persons other than those receiving offer or invitation, as being of a domestic concern of the persons making or receiving such offer or invitation shall not be treated as made to the public. Thus, prospectuses for issue of shares or debentures by private placement are not required to be registered with the Registrar of Companies.

During the year ending 31 March 1992, 159 non-government, non-financial public limited companies delivered to the Registrar of Companies for registration. The copies of prospectuses under Section 60 of the Act for raising an amount of Rs 1,787.5 crore from public as against 130 prospectuses delivered by the companies in the previous year for raising an amount of Rs 1,837 crore. Of the 150 companies which issued prospectuses during 1991-92, 117 companies (or 73.6 per cent) invited applications for equity share capital, of the remaining 42 companies, 14 invited applications for equity shares as well as debentures and 28 for debentures only. The issue of debentures related to fully secured convertible debentures, (24) partly convertible debentures (16) and non-convertible debentures (2). Of the total amount of Rs 1,787.5 crore issued through prospectuses during 1991-92, Rs 867.6 crore (48.53 per cent approx.) was in respect of equity shares, Rs 0.50 crore only in respect of preference shares i.e., 0.30 per cent and balance of Rs 919.4 crore (51.44 per cent approx) was for debentures. Capital amounting to Rs 847.2 crore or 47.4 per cent of the total amount covered by the prospectuses, was offered to the public and balance of Rs 940.3 crore or 52.6 per cent, was earmarked for firm allotment to the promoters, directors, existing shareholders and employees of the companies, non-resident Indians, financial institutions, banks and the state industrial development corporations. While directors, promoters and their relatives accounted for 26.3 per cent of the amount earmarked for firm allotment, non-resident Indians accounted for 7.3 per cent, shareholders for 34.1 per cent and financial institutions and state industrial development corporations for 10.5 per cent and others such as foreign collaborators, and employees mutual funds 21.8 per cent.

COMPANIES HAVING CEASED TO WORK

During 1991-92, 201 companies went into liquidation or otherwise became defunct or ceased to work and were struck-off under Section 560 (5) of the Companies Act, 1956.

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14 Planning

PLANNING in India derives its objectives and social premises from the Directive Principles of State Policy enshrined in the Constitution. Public and private sectors are viewed as complementary. Private sector covers not only organised industry but also small scale industries, agriculture, trade and a great deal of activity in housing, construction and other fields. Individual effort and private initiative are considered necessary and desirable in national endeavour on development with optimum of voluntary cooperation. Although in the past economic planning did envisage a growing public sector with massive investments in basic and heavy industries, now the emphasis on the public sector is less pronounced and the current thinking on planning in the country, in general, is that it should increasingly be of an indicative nature.

Planning Commission was set up in 1950 to prepare the blue–print of development, taking an overall view of the needs and resources of the country. The composition of the Planning Commission as on 1 February 1993 was as follows.

Shri P.V. Narasimha Rao, Prime Minister	:	Chairman
Shri Pranab Mukherjee	:	Deputy Chairman
Dr Manmohan Singh, Minister of Finance	:	Member
Shri Sharad Pawar, Minister of Defence	:	Member
Shri Balram Jakhar, Minister of Agriculture	:	Member
Shri Gridhar Gomango, MOS, Plg. & PI	:	Member
Dr Chitra Naik	:	Member
Dr D. Swaminadhan	:	Member
Dr S.Z. Qasim	:	Member
Prof. J.S. Bajaj	:	Member
Dr Jayant Patil	:	Member
Shri N. Raghunathan	:	Secretary

FIRST PLAN

The First Plan (1951–56) had a two fold objective to correct the dis–equilibrium in economy caused by the Second World War and partition of the country and also to initiate simultaneously a process of all-round balanced development. This was to ensure increase in the national income and steady improvement in living standards. Keeping in view large-scale imports of foodgrains in 1951 and inflationary pressures on economy, the Plan accorded the highest priority to agriculture including irrigation and power projects.

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About 44.6 per cent of the total outlay of Rs 2,069 crore in the public sector (later raised to Rs 2,378 crore) was allotted for its development. The Plan also aimed at increasing the rate of investment from five to about seven per cent of national income.

SECOND PLAN

In 1954, Parliament declared that the broad objectives of economic policy should be to achieve a 'socialistic pattern of society' under which the basic criteria for determining the lines of advance would be social gain and greater equality in income and wealth and not private profit. The Second Five Year Plan (1956-57 to 1960-61), therefore, sought to promote a pattern of development which would ultimately lead to the establishment of a socialistic pattern of society in India. In particular, it stressed that the benefits of economic development should accrue more to the relatively less privileged sections of society and there should be a progressive reduction in the concentration of incomes, wealth and economic power.

The main aims of the Second Plan were (i) an increase of 25 per cent in the national income; (ii) rapid industrialisation with particular emphasis on the development of basic and heavy industries (iii) large expansion of employment opportunities; and (iv) reduction of inequalities in income and wealth and a more even distribution of economic power. The Plan also aimed at increasing the rate of investment from about seven per cent of the national income to 11 per cent by 1960-61. The Plan laid special stress on industrialisation–increased production of iron and steel, heavy chemicals including nitrogenous fertilizers and development of heavy engineering and machine-building industry.

THIRD PLAN

The Third Plan (1961-62 to 1965-66) aimed at securing a marked advance towards self-sustaining growth. Its immediate objectives were to (i) secure an increase in the national income of over five per cent per annum and at the same time ensure a pattern of investment which could sustain this rate of growth during subsequent Plan periods; (ii) achieve self-sufficiency in foodgrains and increase agricultural production to meet the requirements of industry and exports; (iii) expand basic industries like steel, chemicals, fuel and power and to establish machine-building capacity, so that the requirements of further industrialisation could be met within a period of 10 years or so mainly from the country's own resources; (iv) utilise fully the manpower resources of the country and ensure a substantial expansion in employment opportunities; and (v) establish progressively greater equality of opportunity and bring about reduction in disparities of income and wealth and a more even distribution of economic power. The Plan aimed at increasing the national income by about 30 per cent from Rs 14,500 crore in 1960-61 to about Rs 19,000 crore by 1965-66 (at 1960-61) prices and per capita income by about 17 per cent from Rs 330 to Rs 385 during the same period.

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ANNUAL PLANS

The situation created by the Indo-Pakistan conflict in 1965, two successive years of severe drought, devaluation of the currency, general rise in prices and erosion of resources available for Plan purposes delayed finalisation of the Fourth Five-Year Plan. Instead, between 1966 and 1969, three Annual Plans were formulated within the framework of the draft outline of the Fourth Plan. They took into account the conditions prevailing at that time. The state of the economy and the non-availability of financial resources for Plan purposes kept down the size of development outlay during this period.

FOURTH PLAN

The Fourth Plan (1969-74) aimed at accelerating the tempo of development and reducing fluctuations in agricultural production as well as the impact of uncertainties of foreign aid. It sought to raise the standard of living through programmes designed to promote equality and social justice. The Plan laid particular emphasis on improving condition of less privileged and weaker sections especially through provision of employment and education. Efforts were also directed towards reduction of concentration and wider diffusion of wealth, income and economic power.

The Plan aimed at increasing net domestic production at 1968-69 factor cost from Rs 29,071 crore in 1969-70 to Rs 38,306 crore in 1973-74. In terms of 1960-61 prices, this implied an increase from Rs 17,351 crore in 1968-69 to Rs 22,862 crore in 1973-74. Average annual compound rate of growth envisaged was 5.7 per cent.

FIFTH PLAN

The Fifth Plan (1974-79) was formulated against the backdrop of severe inflationary pressures. Major objectives of the Plan were to achieve self-reliance and adopt measures for raising consumption standards of people living below the poverty line. This Plan also gave high-priority to bring inflation under control and to achieve stability in the economic situation. It targetted an annual growth rate of 5.5 per cent in national income. Four Annual Plans pertaining to the Fifth Plan period were completed. It was subsequently decided to end the Fifth Plan with the close of Annual Plan 1978-79 and initiate work for a new Plan for next five years with new priorities and programmes.

SIXTH PLAN

The Sixth Plan (1980-85) was conceptualised keeping in view achievements and shortcomings of the past three decades of planning. Removal of poverty was foremost objective of the Plan even though it was recognised that task of this magnitude could not be accomplished in a short period of five years. The strategy adopted for the Plan consisted essentially in moving simultaneously towards strengthening infrastructure for both agriculture and industry so as

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to create conditions for an accelerated growth in investments, output and exports and provide through special programmes designed for the purpose, increased opportunities for employment especially in rural areas and unorganised sector and as well meeting minimum basic needs of people. Stress was laid on dealing with inter-related problems through a system approach rather than in separate compartments, greater management efficiency and intensive monitoring in all sectors and active involvement of people in formulating specific schemes of development at local level and securing their speedy and effective implementation.

Sixth Plan's actual expenditure stood at Rs 1,09,291.7 crore (current price) as against the envisaged total public sector outlay of Rs 97,500 (1970-80 prices) accounting for a 12 per cent increase in nominal terms. Average annual growth rate for the Plan was 5.2 per cent, targetted growth rate for this period. Details of the Sixth Plan outlays/expenditure are shown in table 14.1.

SEVENTH PLAN

The Seventh Plan (1985-90) emphasised on policies and programmes, the aim of which had been rapid growth in foodgrains production, employment opportunities and productivity with the framework of basic tenets of planning, namely, growth, modernisation, self-reliance and social justice. Foodgrains production during the Seventh Plan grew by 3.23 per cent as compared to a long-term growth rate of 2.68 per cent during 1967-68 to 1988-89 and a growth rate of 2.55 per cent in the eighties. To reduce unemployment and, consequently, the incidence of poverty, special programmes like *Jawahar Rozgar Yojana* have been initiated in addition to the already existing programmes. Due recognition has also been accorded to the role small-scale and food processing industries can play in this regard. Various policy instruments have also been used to improve the productivity and the international competitiveness of the Indian economy. Instead of creating new facilities, the thrust has been on improvement of existing facilities and fuller capacity utilisation.

The total expenditure during the entire Seventh Plan stood at Rs 2,18,729.62 crore (current prices) as against the envisaged total public sector outlay of Rs 1,80,000 crore resulting in a 21.52 per cent increase in nominal terms. During this Plan Period, Gross Domestic Product (GDP) grew at an average rate of 5.6 per cent per year exceeding the targetted growth rate by 0.6 per cent. Table 14.2 shows the details of the Seventh Plan outlays/expenditure.

ANNUAL PLANS

The Eighth Five Year Plan (1990-95) could not take off due to the fast changing political situation at the Centre. The new government which assumed power at the Centre in June 1991 decided that the Eighth Five Year Plan would commence on 1 April 1992 and that 1990-91 and 1991-92 should

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be treated as separate Annual Plans. Formulated within the framework of the earlier approach to the Eighth Five Year Plan (1990-95), the basic thrusts of these Annual Plans were on maximisation of employment and social transformation. The approved Plan outlays for 1990-91 and 1991-92 were Rs 64,716.80 crore and Rs 72,316.75 crore respectively.

EIGHTH PLAN

The draft Eighth Five Year Plan (1992-97) document was made ready on the basis of the Directional Paper. In preparing the draft document the Deputy Chairman, Planning Commission had rounds of discussions with chief ministers and with many Central ministers. The draft Eighth Five Year Plan document was endorsed by the National Development Council (NDC) at its meeting held on 22-23 May 1992. Some of the salient features of the Plan are: (i) The Plan is indicative in nature. While for the public sectior the Plan goes into the details examining the alternatives and identifying the specific projects in various sectors, for the rest of the economy works out sectoral targets and tends to provide promotional stimulus to the economy to grow in the desired direction; (ii) The Plan recognises "human development" as the core of all developmental effort. The priority sectors of the Plan that contribute towards realisation of this goal are health, literacy and basic needs including drinking water, housing and welfare programmes for the weaker sections; (iii) For rapid economic development, the priority sectors identified for the growth of infrastructure are power, transport and communications; (iv) The Plan attempts to correct the fiscal imbalances from which the Sixth and Seventh Plan suffered. The non-inflationary manner to be adopted for funding of the Plan in order to avoid debt trap both internally and externally, calls for a reduction in Government's dissavings, higher resource mobilization both by the Centre and the states and improvement in the performance of public sector units; (v) The Plan is also integrative in nature. Efforts are envisaged to integrate the developmental activities, by bringing together the various departments/agencies dealing in the priority areas of rural development, energy and transport under one umbrella for coordinated policy formulation and implementation; (vi) Eighth Plan recognises the essential need to involve people in the process of development; (vii) The new role of the Government in the process of Plan implementation envisages substantial devolution of power to the people's organisations at the district, block and village levels. *Panchayats* and *Nagar Palikas* would have a larger role in formulating and implementing the developmental projects in their areas. The Plan also underlines the necessity for involvement of voluntary agencies and other peoples' institutions for effective micro-level participatory planning; (viii) This Plan is performance oriented. It concentrates on performance improvement, quality consciousness, competitiveness, efficiency of operations and on-time completion of the projects; (ix) Eighth Plan pays special attention to employment in the rural areas. The need for expansion of employment opportunities in rural areas in order to check migration to urban areas calls

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for a shift in the emphasis in the rural development programmes from the creation of relief type of employment to building up of durable productive assets in the rural areas and; (x) The Eighth Plan is a flexible one, with scope for change, innovation and adjustment.

The Plan proposes a growth rate of 5.6 per cent per annum on an average during the Plan period. National investment is proposed to be at Rs 7,98,000 crore and the public sector outlay at Rs 4,34,100 crore. Consistent with the expected resource position, the size of the plans of the states and union territories is projected at Rs 1,86,235 crore and of the Central Plan at Rs 2,47,865 crore.

ANNUAL PLAN

Official level discussions of the Plan proposals of the Central ministries/departments for the Annual Plan (1992-93) were held along with those for the Eighth Plan (1992-97) during 1991 to January 1992. Similarly, discussions with the state governments followed by Deputy Chairman's discussions with state chief ministers on states' resources and programmes were also held. Based on these discussions the Planning Commission finalised the allocations for the Annual Plan 1992-93. The outlay for the Annual Plan has been estimated at Rs 80,771.96 crore. This comprises of Rs 48,407.08 crore for the Centre and Rs 32,364.88 crore for states and UTs.

COMMITTEES OF NATIONAL DEVELOPMENT COUNCIL (NDC)

The following six Committees of the NDC were constituted to go into some of the critical areas of developement: (i) Committee on Austerity; (ii) Committee on Population; (iii) Committee on Employment; (iv) Committee on Micro-Level Planning; (v) Committee on Literacy; and (vi) Committee on Medical Education. These committees will place their reports before National Development Council which will take final decision regarding the recommendations.

The committee headed by Deputy Chairman, Planning Commission was constituted to evolve a suitable formula for distribution of Central assistance to non-special category states. The suggestions made by the committee were discussed by the NDC- 1991 wherein a consensus emerged and a revised formula evolved which was made the basis for allocation of Central Plan assistance to the states for the Eighth Plan. The approved formula highlights four objectives, *viz.*, (a) population control and maternal and child health; (b) universalisation of primary education; (c) on-time completion of externally aided projects; and (d) land reforms.

ACHIEVEMENTS

During the 41 year period (1950-51 to 1991-92), Net National Product (NNP) at factor cost (NI) at 1980-81 prices increased from Rs 40,454 crore to Rs 186,135 crore implying compound growth rate of nearly 3.8 per cent per

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TABLE 14.1 PROGRESS OF THE SIXTH PLAN OUTLAYS/EXPENDITURE—CENTRE, STATES AND UNION TERRITORIES

(Rs crore)

Heads of Development	Sixth Plan Outlay 1980-85	Annual Plan 1980-81 (Actuals)	Annual Plan 1981-82 (Actuals)	Annual Plan 1982-83 (Actuals)	Annual Plan 1983-84 (Actuals)	Annual Plan 1984-85 (Actuals)	Total Sixth Plan (Actuals)
1. Agriculture	5,695.1	981.5	1,129.4	1,261.0	1,427.0	1,824.6	6,623.5
2. Rural Development	5,363.7	1,010.2	1,100.9	1,295.8	1,497.9	2,062.0	6,996.8
3. Special Area Programme	1,480.0	206.4	258.5	335.1	356.8	423.5	1,580.3
4. Irrigation and Flood Control	12,160.0	1,777.3	1,918.4	2,105.2	2,445.4	2,653.6	10,929.9
5. Energy	26,535.4	3,828.0	5,064.9	6,409.6	7,276.6	8,172.2	30,751.3
(a) Power	19,265.4	2,656.8	3,182.3	3,708.56	4,095.5	4,658.5	18,298.6
(b) New and Renewable Sources of Energy	100.0	4.3	13.9	22.5	33.7	88.7	163.1
(c) Petroleum	4,300.0	735.2	1,201.8	1,823.1	2,197.8	2,521.2	8,482.1
(d) Coal	2,870.0	431.7	663.9	855.5	952.6	903.8	3,807.5
(e) Energy Development	—	—	—	—	—	—	—
6. Industry and Minerals	15,017.6	2,194.5	2,777.9	3,075.3	3,916.4	4,983.4[1]	19,647.5[1]
(a) Village and Small Scale Industries	1,780.5	273.2	322.9	326.1	402.6	620.3	1,945.1
(b) Large and Medium Industries	13,237.1	1,921.3	2,360.0	2,709.2	3,478.8	4,321.1[1]	14,790.4[1]
(c) Others	—	—	95.0	40.0	35.0	42.0	212.0

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TABLE 14.1 (Continued)

Heads of Development	Sixth Plan Outlay 1980-85	Annual Plan 1980-81 (Actuals)	Annual Plan 1981-82 (Actuals)	Annual Plan 1982-83 (Actuals)	Annual Plan 1983-84 (Actuals)	Annual Plan 1984-85 (Actuals)	Total Sixth Plan (Actuals)
7. Transport	12,412.0	2,163.0	2,583.1	2,752.8	3,075.8	3,633.7	14,208.4
(a) Railways	5,100.0	973.0	1,210.0	1,319.5	1,419.6	1,664.6	6,586.7
(b) Others	7,312.0	1,190.0	1,373.1	1,433.3	1,656.2	1,969.1	7,721.7
8. Communication and Information and Broadcasting	3,134.3	356.7	576.1	674.8	864.5	997.4	3,469.5
9. Science and Technology	865.2	97.4	148.3	208.1	228.5	338.1[1]	1,020.4[1]
10. Social Services	14,035.2	2,074.6	2,487.2	2,950.2	3,831.7	4,569.7	15,916.6
(a) Education	2,523.7	339.5	435.7	538.6	697.8	965.0	2,976.6
(b) Health and Family Planning	2,831.4	411.5	530.4	675.2	853.1	942.0	3,412.2
(c) Housing and Urban Development	2,488.1	477.3	488.1	507.3	656.9	709.5	2,839.1
(d) Other Social Services	6,192.1	8,16.3	1,033.0	1,229.1	1,626.9	1,953.4	6,688.7
11. Others	801.5	112.8	136.2	215.0	163.0	219.6	817.5
12 Total (1 to 11)	97,500.0	14,832.4	18,210.9	21,282.9	25,087.5	29,878.0	1,09,291.7
(a) Central Plan	--	(15,023.4)	(18,372.9)	(21,724.9)	(25,313.6)	(30,032.5)	(1,10,467.3)
(b) State Plans	47,250.0	7,049.3	9,197.0	11,284.9	13,611.0	16,650.0	57,825.2
	48,600.0	7,527.5	8,666.3	9,587.8	10,991.8	12,681.8	49,458.2
(c) Union Territory Plans	--	(7,718.5)	(8,828.3)	(10,029.8)	(11,220.9)	(12,836.6)	(50,633.8)
	1,650.0	255.6	347	410.2	448.7	546.2	2,008.3

Note: Figures in brackets are inclusive of expenditures (Rs 191 crore in 1980-81. Rs 162 crore in 1981-82, Rs 442 crore in 1982-83, Rs 226 crore in 1983-84 and Rs 154.5 crore in 1984-85) on works financed by the Central Assistance for relief against natural calamities.

1. Excludes Rs 2.85 crore on account of National Test House.

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TABLE 14.2 PROGRESS OF THE SEVENTH PLAN OUTLAYS/EXPENDITURE—CENTRE, STATES AND UNION TERRITORIES

(Rs crore)

	Heads of Development	Seventh Plan Outlay 1985-90	Annual Plan 1985-86 (Actuals)	Annual Plan 1986-87 (Actuals)	Annual Plan 1987-88 (Actuals)	Annual Plan 1988-89 (Actuals)	Annual Plan 1989-90 (actuals)	Total for Seventh Plan 1985-86 to 1989-90
1.	Agriculture and Allied Activities	10,523.62	1,825.92	2,215.79	2,742.92	2,903.02	3,105.0	12,792.65
2.	Rural Development	8,906.08	2,226.14	2,667.65	3,146.42	2,982.34	4,223.99	15,246.54
3.	Special Area Programmes	2,803.59	447.33	627.60	677.05	926.51	791.86	3,470.35
4.	Irrigation and Flood Control	16,978.65	2,792.24	3,221.63	3,346.94	3,590.92	3,638.19	16,589.92
5.	Energy	54,821.26	9,613.21	11,402.78	11,594.48	13,226.41	15,852.40	61,689.28
	(a) Power	34,273.46	5,615.53	6,701.45	7,096.29	8,243.79		
	(b) Petroleum	12,627.67	2,869.88	3,326.41	3,019.55	3,108.90		
	(c) Coal and Lignite	7,400.58	995.04	1,233.05	1,362.93	1,737.66		
	(d) Non-Conventional Source of energy	519.55	132.76	141.87	115.71	136.06		
6.	Industry and Minerals	22,415.55 @	5,502.88 @	5,619.67 @	5,537.05 @	5,896.04$	6,664.72$	29,220.36
	(a) Village and Small Industries	2,752.74	524.35	615.74	616.85	686.17		
	(b) Other Industries	19,662.81	4,978.53	5,003.93	4,920.20	5,209.87		
7.	Transport	22,644.86	4,072.19	5,201.43	6,034.61	6,722.96	7,516.88	29,548.07
	(a) Railways	12,334.55	1,941.68	2,697.06	3,418.87	3,929.00		
	(b) Others	10,310.31	2,130.51	2,504.37	2,615.74	2,793.96		
8.	Communications	4,474.52	942.12	1,085.61	1,463.95	2,193.76	2,740.02	8,425.46
9.	Science and Technology and Environment	2,463.06	404.78	512.38	585.42	751.42	769.86	3,023.86
10.	General Economic Services	1,395.60	179.05	423.12	386.07	494.82 @	766.57@	2,249.63
11.	Social Services	31,545.24	4,858.45	5,901.99	7,006.40	8,052.52	9,140.31	34,959.67
	(a) Education	6,382.65	876.79	1,014.38	1,610.84	1,913.36		
	(b) Medical and Public Health	3,392.89	579.89	641.77	724.31			
	(c) Family Welfare	3,256.26	479.81	561.11	607.39	671.84		

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TABLE 14.2 (Continued)

(Rs crore)

Heads of Development	Seventh Plan Outlay 1985-90	Annual Plan 1985-86 (Actuals)	Annual Plan 1986-87 (Actuals)	Annual Plan 1987-88 (Actuals)	Annual Plan 1988-89 (Actuals)	Annual Plan 1989-90 (actuals)	Total for Seventh Plan1985-86 to 1989-90
(d) Housing and urban Development	4,229.50	761.11	920.05	907.31	1,069.30		
(e) Other Social Services	14,283.94	2,160.85	2,764.68	31,156.55	3,567.01		
12. General Services	1,027.97	195.59	269.46	399.24	329.11	320.43	1,513.83
Total(1 to 12)	1,80,000.00	33,059.90	39,149.11	42,920.55	48,069.83	55,530.23	2,18,729.62
	33,421.09	(43,970.50)	(44,034.10)	(48,644.83)	(9,57,116.89)		
(a) Central Plan	95,534.00	19,115.47	22,401.76	24,583.68	27,918.98	33,468.68	1,27,519.57
(b) State Plans	80,698.00	13,249.52	16,042.98	17,627.53	19,356.35	21,216.03	87,492.41
		13,610.71	(16,599.03)	(18,741.08)	19,931.35		
(c) UT Plans	3,768.00	694.91	704.37	708.34	764.50	845.52	3,717.64

Note: As per revised budget classification.

Figures in brackets are inclusive of expenditure on works financed by Central Assistance for relief against natural calamities (Rs.361.19 crore in 1985-86, Rs 556.05 crore in 1986-87, Rs 1,113.55 crore in 1987-88, Rs 575.00 crore in 1988-89 and Rs 100.00 crore in 1989-90).

Annual Plan Outlays/Expenditure in respect of some erstwhile union territories have been included in State Plans figures consequent on their attainment of statehood. The Seventh Plan Outlays are, however, as per the then existing situation. Actual Plan Expenditure for 1985-86 and 1986-87 are as published in previous Annual Plan Documents.

Outlays/Expenditure for Petro-Chemicals and Engineering Units under Ministry of Petroleum and Natural Gas has been excluded from energy and included under industry and minerals.

R.E. Revised Estimates.

1. Includes provision for district planning and National Savings Schemes.
2. Provision for Special Employment Scheme is included.

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annum. During the First Five Year Plan 1951-56, national income increased by 3.6 per cent per annum as against the targetted growth rate of 2.1 per cent per annum. In the Second Five Year Plan 1956-61, however, the growth rate actually achieved was 4 per cent per annum against the target of 4.5 per cent per annum.

In the Third Plan 1961-66, there was a sharp decline in the growth rate at 2.3 per cent per annum and fell well short of the target at 5.6 per cent per annum. This was primarily due to the steep fall in agricultural production and consequent decline in NNP at factor cost of 4.65 per cent in the last year of the Third Plan. However, during the subsequent three Annual Plans, the economy picked up and the growth rate during 1965-69 was 3.7 per cent per annum. For the Fourth Five Year Plan 1969-74, the growth rate target was fixed at 5.7 per cent per annum in terms of NDP at factor cost. However, the actual growth rate achieved was only 3.3 per cent per annum.

The economy took an up-turn during the Fifth Five Year Plan (1974-79). The growth rate target fixed in terms of GDP at factor cost of 4.4 per cent per annum was over-achieved at 4.8 per cent per annum for the Fifth Five Year Plan. In 1979-80, however, the economy faced a severe drought resulting in the decline of GDP at factor cost by 5.2 per cent over the previous year. The economy bounced back on the track during the Sixth Plan (1980-85) period when the rate of growth in GDP at factor cost at 5.6 per cent per annum surpassed the target of 5.2 per cent per annum. Despite successive drought conditions during the first three years of the Seventh Five Year Plan 1985-90, the economy has fared exceptionally well. The growth rate achieved during this period was 5.8 per cent per annum and this surpassed the target of 5 per cent per annum in GDP at factor cost for the Seventh Plan.

By 1991-92 the country faced a severe fiscal crisis and the balance of payment situation became so critical that exceptional measures had to be resorted to. While the growth momentum enabled an increase in GDP by 5.2 per cent in 1990-91, the growth in 1991-92 was only 1.2 per cent. The output of manufacturing sector declined in 1991-92 due to demand compression and the curbs on imports. The GDP from agriculture and allied sectors also declined in 1991-92 due to the delayed monsoons. Important policy reforms have been made since June 1991 towards liberalisation and structural adjustment of the economy. These measures have started showing results. The annual rate of inflation as measured by the wholesale price index declined from 13.6 per cent at the end of 1991-92 to 6.9 per cent as on 30 January 1993. Advance estimates of GDP for 1992-93 project a growth of 4.2 per cent in the year. The Eighth Five Year Plan (1992-97) sets a target of 5.6 per cent per annum growth in GDP at factor cost during 1992-97.

Index of agricultural production with the triennium ending 1969-70 as base, rose from 71.9 at the end of First Plan to 86.7 at the end of Second

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Plan. During Third Plan, performance of agriculture was not quite satisfactory. Widespread drought during 1965-67 slowed down the rate of growth in agricultural production and led to increased import of foodgrains and other items. Index of agricultural production reached the level of 80.8 in 1965-66 and 80.7 in 1966-67. These drought years also witnessed introduction of the best available agricultural technology for the first time in India in the form of high-yielding variety programme and multiple cropping programme. The following years recorded substantial improvement in agricultural production. As a result, the index, after recovering to 98.9 points in 1967-68 increased steadily to 112.4 in 1973-74. The next year 1974-75 was again a bad year for agriculture when the index declined to 108.6. This was followed by considerable improvement in 1975-76 when it touched 125.1. In 1976-77, the index registered a decline of 8.8 points and stood at 116.3 but again shot up to 132.9 in 1977-78 and 138 in 1978-79. The year 1979-80 witnessed a fall by 21 points when index number of agricultural production slipped to 117. It recovered to 135.3 in 1980-81 and further increased to 142.9 in 1991-92.

During 1982-83 *Kharif* production was adversely affected due to wayward monsoon which was inadequate, uneven and untimely. Even so, fall in foodgrains production was only marginal, indicated by a drop of 5.4 points in the production index. Agricultural production registered significant improvement in 1983-84 which was near normal year from the point of view of weather conditions. Index of agricultural production increased from 137.5 in 1982-83 to 156.4 in 1984-84 and production of foodgrains touched a record level of 15.237 crore tonnes. Weather conditions during 1984-85 were not very satisfactory. As a result, production of foodgrains declined to 14.554 crore tonnes and index number of agricultural production also declined marginally to 154.6. During *Kharif* 1985, onset of the south-west monsoon was delayed over central and northern states and its behaviour during the season was erratic over many states.

However, weather conditions during the *Rabi* season were on the whole rather favourable to crop production. Consequently, foodgrains output during 1985-86 stood at 15.044 crore tonnes. Weather conditions during 1986-87 continued to be unsatisfactory. Monsoon was delayed over eastern states, while southern states experienced dry spells leading to moisture stress conditions. As a result, only 14,342 crore tonnes of foodgrains production could be achieved during 1986-87. The year 1987-88 witnessed severe drought conditions in most parts of the country and the incidence of heavy floods in the eastern states. The foodgrains production consequently further fell down to 14.035 crore tonnes. During 1988-89, production of foodgrains recorded a new peak of 16.982 crore tonnes indicating a substantial increase of 1.775 crore tonnes over the previous peak of 15.237 crore tonnes achieved in 1983-84. With the rainfall and weather situation being favourable during South West Monsoon 1989, the total foodgrains production reached another record level of 17.065 crore tonnes.

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On account of the erratic behaviour of south-west monsoon, foodgrains production in 1991-92 fell by 5.3 per cent to 167.1 million tonnes from a record level of 176.4 million tonnes in 1990-91. Production of rice and wheat was 73.7 million tonnes and 55.1 million tonnes respectively. There was a substantial decline in the production of coarse cereals and pulses. Production of oilseeds at 18.3 million tonnes in 1991-92 was 1.6 per cent less than previous year's production of 18.6 million tonnes. Production of foodgrains during 1992-93 is expected to be of the order of 176.7 million tonnes–98.7 million tonnes of *Kharif* and 78.0 million tonnes of *Rabi*. Production of oilseeds is expected to be around 20 million tonnes.

On the irrigation side the potential created from major, medium and minor schemes increased from 226 lakh hectare in 1950-51 to 262.5 lakh hectare at the end of the First Plan, 290.8 lakh hectare by the Second Plan, 335.7 lakh hectare at the end of Third Plan and 371 lakh hectare by 1968-69. At the end of 1973-74, the potential created was 442.1 lakh hectare. By 1979-80, it touched 566.1 lakh hectare and by 1984-85, it reached 675.3 lakh hectare. Potential created by 1989-90 was 781.29 lakh hectare. Potential created by 1990-91 was 806.19 lakh hectare and by 1991-92 it is expected that a potential of 830.95 hectare would be created. The target for the creation of additional potential during 1992-93 is 27.04 lakh hectare.

The total installed generating capacity (including non-utility), which was only 2,301 MW in 1950, increased to 47,705 MW by the end of March 1985. Against the capacity addition of 22,245 MW in the public utilities, the actual additions made were 21,401 MW. With these additions, the cumulative installed capacity in the country (including non-utility) by March 1990, rose to 71,752 MW.

Under the rural electrification programme 4.70 lakh villages had been electrified out of 5.79 lakh villages (as per 1981 census) by the end of the Seventh Plan achieving 81.3 per cent level of electrification. Upto January 1993, 4.89 lakh villages were electrified. During 1992-93, 1,513 villages had been electrified so far.

Large investments in the industrial and mineral sector particularly from the beginning of the Second Plan have brought about a significant transformation in the industrial scene. This rate of industrial growth has not been uniform during this period. After a steady growth of about eight per cent during the initial period of 14 years, there was fluctuating trend in the industrial growth rate approaching near stagnancy in 1960-68, going up to a level of 9.6 per cent in 1976-77 and dipping to 1.4 per cent in 1979-80. During the last decade (1970-71 to 1979-80) the average growth rate has been about four per cent per annum. The average growth rate of industry in the Sixth Plan period (1980-85) amounts to nearly six per cent which is a small improvement over the average of about 5.3 per cent in the preceding five years.

Seventh Plan envisaged an average annual growth rate of 8.7 per cent in the ouput of industry sector. In the first year of the Seventh Plan *i.e.*

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1985-86, the actual growth rate achieved was 8.7 percent as per the revised Index of Industrial Production (IIP) (Base 1980-81 = 100). In 1986-87, second year of the Seventh Plan, growth rate achieved was 9.1 per cent. However, in 1987-88, the growth rate declined to 7.3 per cent due to decline in production towards the end of the year following unprecedented drought. In 1988-89, there was again a recovery in the growth rate and the IIP recorded an increase to 8.7 per cent. In the last year of the Seventh Plan, there was slight deceleration in the growth rate, which was only 8.6 per cent due to sharp decline in growth rates of mining and electricity sectors. During 1990-91, the growth rate was 8.4 per cent and during 1991-92, the growth rate was zero for industrial production.

Government initiated a number of measures late in Sixth Plan and in early years of Seventh Plan, with the objective of removing constraints on industrial growth and providing a more liberal and congenial environment for development of industries. A number of steps were taken to liberalise industrial procedures relating to creation of capacity, import of technology, etc., to encourage competition in Indian industry so as to ensure reasonable prices and improvement in quality. These include re-endorsement of capacities, delicensing of industries including specified MRTP and FERA industries and broad-banding of a large number of industries, especially in areas of high technology, industries linked with energy production and utilisation, as well as mass consumer goods industries. Provisions of the MRTP Act and FERA regulations were rationalised to facilitate entry into industrial areas of high priority. Expansion of existing units has been liberalised and investment in modernisation/renovation/replacement, as well as export production, has been exempted from industrial licensing. Licensing of new capacity has been liberalised and concept of minimum economic scale introduced to promote production efficiency, taking advantage of economies of scale.

A number of policy measures have been initiated for development of specific industries like textiles, sugar, steel, electronics, etc. Steps have also been taken to tackle the problem of industrial sickness. These include: (i) system for early detection of industrial sickness introducted by Reserve Bank of India; (ii) various steps for checking industrial sickness and promoting industrial revival evolved by Industrial Reconstruction Bank of India; (iii) setting up of Board for Industrial and Financial Reconstruction, and (iv) setting up of Small Industries Development Fund in IDBI to provide refinancing assistance not only for development, expansion and modernisation but also for rehabilitation of sick industrial units in small scale sector. The statement on industrial policy announced in July 1991 is being implemented. The new industrial policy emphasises delicensing and technological dynamism. Government has also set up modernisation funds for textiles and jute industries to cater to problems of those industries which account for a major share of industrial sickness.

The Government is to establish 100 growth centres to act as a nucleus for industrial growth and promote accelerated development especially in

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backward areas. In the first phase, it has been decided to set up 70 such centres and 63 centres have already been indentified. The process of setting up of the growth centres has been started.

There has been an important milestone in the public sector steel capacity with most of the main units of the Stage-I of the Vishakhapatnam Steel Plant having come on stream in 1990-91. The 4 MT expansion programmes of Bhillai Steel Plant and Bokaro Steel Plant have also fully materialised during the year.

During Seventh Plan overriding priority was given to attainment of universalisation of elementary education. By 1991-92, 2.53 crore additional children in the formal and 72 lakh children in the non-formal system were enrolled. In 1990-91, the gross enrolment ratio at primary and middle stage was 101.03 per cent and 60.11 per cent respectively. As per 1991 census, the literacy rate of the country improved from 43.56 per cent in 1981 to 52.11 per cent for the population aged seven years and above. Female literacy rate rose from 19.75 per cent to 39.42 per cent.

The National Literacy Mission launched in 1988 had set a goal of imparting functional literacy to 80 million illiterates in the age group of 15-35 years by 1995. Area specific time bound volunteer based total literacy campaigns have been launched in 64 districts of the country by March 1992. More than half the districts aim to cover both elementary and adult age-group *i.e.* 9–35 years.

During the Eighth Five Year Plan (1992-97) also overriding priority was given to achieve the goal of universalisation of elementary education. The Natioanl Literacy Mission (NLM) has envisaged to cover 104 million persons in the 15-35 age group, out of whom 80 million persons would be covered through total literacy compaigns. By 1992-93, 52.80 lakh additional children in the elementary education and 265.57 lakh adults under adult education are to be enrolled. During 1991-92 the gross enrolment ratio at primary and middle stage was 102.74 per cent and 61.15 per cent respectively. As per 1991 census, the literacy rate of the country improved from 43.56 per cent in 1981 to 52.11 per cent for the population aged seven years and above. Female literacy rate rose from 19.75 per cent to 39.42 per cent.

STATE PLANNING BOARD

Apex planning body at state level is generally a State Planning Board comprising Chief Minister as Chairman and finance and planning ministers of the state and some technical experts as members. Department of Planning in state government provides secretariat for the Board. In most of the states, there is District Planning Committee or District Planning Council comprising both official and non-official members. Some states also have a separate set-up consisting of functionaries like district planning officers, economist, credit planner, project appraiser, expert training coordinator and an area planner in some of the districts for formulation of district plans, which are integrated with the state plan.

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DEVELOPMENT OF INDUSTRIES

The history of the organised industry in India may be traced to 1854 when the real beginnig of the cotton-mill industry was made in Bombay with predominantly Indian capital and enterprise. The foundations of the jute industry were laid near Calcutta in 1855, mostly with foreign capital and enterprise. Coal-mining also progressed about this time. During and after the First and Second World Wars, a somewhat more liberal policy was adopted by the authorities, such as a discriminating protection policy which gave impetus to industrial development. Several industries rapidly expanded and a number of new industries came up such as steel, sugar, cement, glass, industrial chemicals, soap, vanaspati and some branches of engineering. But their production was neither adequate in quantity for meeting even the low-level of internal demand nor was diversified in character.

PROGRESS DURING FIRST AND SECOND PLANS

During the First and Second Plans, the growth and diversification of industry were remarkable particularly in the Second Plan. Three new steel plants, each of 10 lakh ingot tonnes capacity, were set-up in the public sector and the capacity of the two existing steel works in the private sector was doubled. Foundations were laid of heavy electrical and heavy machine tool industries and heavy machine building and other branches of heavy engineering industries. The production of machinery for cement and paper industries was started for the first time. In chemical industries, the advance was on a wide front, leading not only to large units and greatly increased output of basic chemicals such as nitrogenous fertilizers, caustic soda, soda ash and sulphuric acid but also in the manufacture of a number of new products like urea, ammonium phosphate, penicillin, synthetic fibres, industrial explosives, polythylene and dye stuffs. The output of many other industries like bicycles, sewing machines, telephone and electrical goods increased substantially. New skills were learnt by the workers and a large and growing class of industrial managers came into being. Organised industrial production practically doubled in these ten years; the index of industrial production rose from 100 in 1950-51 to 194 in 1960-61. New industrial townships and factories sprang up in the environs of the main cities of the country.

PROGRESS DURING THE THIRD PLAN AND ANNUAL PLANS

Industrial progress was markedly uneven during the eight years which comprised the Third Plan and the subsequent Annual Plans. In the first four years, conditions were relatively favourable for industrial investment and growth and the progress achieved was significant. Thereafter for nearly three years, the economy was subjected to considerable stress and strain and growth rate in industrial production declined firstly slowly and then steeply till it reached virtual stagnation. But in the last year of this period *i.e.* 1968-69, there were distinct signs of recovery. The decline after 1964-65 was attributable to several factors of which the most important were series of

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dislocations cuased by hostilities in 1965 and two successive droughts in 1965-66 and 1966-67. Many industries were severely affected by shortage of raw materials and components arising from pause in external aid in 1965.

Among industries in which Third Plan production targets were fully or nearly realised by 1965-66 were aluminium, automobiles, electric transformers, cotton textile machinery, machine tools, sugar, jute, textiles, power-driven pumps, diesel engines and petroleum products. On the other hand, in some important industries like steel and fertilizers, there was a considerable shortfall in production. In subsequent years, there was step-up in production in certain industries such as fertilizers, heavy chemicals, cement and petroleum products. Inspite of this uneven performance, significant achievements contributing towards realisation of diversified industriral structure were made during this period. Several large projects launched at the commencement of Third Plan were completed and brought into production in particular, in heavy engineering and different units in Heavy Engineering Corporation. Mining and Allied Machinery Corporation and of heavy electrical projects made it possible largely through indigenous efforts, expansion of further capacity in vital sectors like iron and steel, mining and power generation. In rail and road transport and communications, virtual self-sufficiency for supply of equipment and rolling stock was achieved. Machinery manufacturing capacity for a variety of traditional industries like textiles, sugar and cement was developed and designed and engineering capabilities were expanded. Process technology was either acquired or developed to enable planning, designing and construction of industrial projects with maximum indigenous efforts in fields like fertilizers, rayons and dissolving pulp. There was an appreciable increase in production capacity of steel and non-ferrous metals. Progress was made in expansion of capacity in petroleum, fertilizer and petrochemical industries.

PROGRESS DURING FOURTH PLAN

In Fourth Plan, performance of industrial sector fell short of expectations both in terms of production and investment. Investment of industrial develpment in public sector was estimated to be about Rs 2,700 crore as against provision of Rs 3,050 crore. While pace of investment in some sectors like iron ore and petro-chemicals was generally satisfactory, this was not so in respect of other sectors like iron and steel,non-ferrous metals, fertilizers and coal. Infact, shortfall in overall investment was much larger if account was taken of the escalation in project costs.

A number of factors were responsible for the unsatisfactory growth in industrial production. While in some of the critical industries like steel and fertilizer, production remained substantially below the installed capacity on account of operational problems in different units. Other agro-based industries like sugar and textile showed an erratic trend. The inadequate pace of investment resulted in a reduced demand for industrial machinery

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adversely affecting the level of output of the capital goods industries. Production in other engineering industries was also hit by the shortage of steel and non-ferrous metals.

On the positive side, there was a substantial production increase in several industries like alloy and special steels, aluminium, automobile tyres, petroleum refinery products, electronics, machine tools, tractors and heavy electrical equipment. The production in the public sector undertakings also showed an encouraging rise towards the closing years of the Fourth Plan. Apart from this, the industrial base was further expanded and greater degree of sophistication and self-reliance achieved.

PROGRESS DURING FIFTH PLAN

The Fifth Plan laid emphasis on rapid growth of core sector industries and increase in the production of export-oriented goods and articles of mass consumption. The average rate of growth of industrial sector was estimated at seven per cent per annum in the revised plan.The sharp increase in the prices of foodgrains, fertilizers and oil seriously upset the assumptions on which the Fifth Plan had been framed. These new developments also lent urgency to a time–bound programme of action in order to achieve a measure of self–reliance in food and energy. The successive Annual Plans had to be formulated on the basis of these considerations.

The Fifth Plan envisaged a total outlay of Rs 53,411 crore comprising Rs 37,250 crore for public sector and Rs 16,161 crore for private sector respectively. However, due to the emergence of an unprecedented inflationary situation as a result of a steep increase in oil prices in November 1973, the Plan had to be drastically modified in 1976. The revised plan envisaged a total outlay of Rs 69,351 crore comprising Rs 42,303 for public sector and Rs 27,408 crore for the private sector respectively. The public sector outlay included Rs 3,000 crore as investment on inventories; the remaining public sector outlay of Rs 39,303 crore was as current outlay. Of the revised public sector outlay of Rs 39,303 crore during the Fifth Plan, the share of industries and minerals sector amounted to Rs 10,201 crore of the total outlay. The outlay for large and medium industries was Rs 9,691 crore and that of village and small industries Rs 510 crore.

PROGRESS DURING SIXTH PLAN

The Sixth Plan envisaged a total public sector plan outlay of Rs 97,500 crore. The overall outlay earmarked for large industries and minerals sector is Rs 20,407 crore including coal and petroleum. A major part of the outlay amounting to Rs 19,018 crore is in the central sector and the balance of Rs 1,389 crore is for the state sector. Besides this private sector investment during 1980-85 is estimated at Rs 30,323 crore. The outlay for village and small industries is Rs 1,780 crore.

Industrial policy during the Sixth Plan aimed at optimum utilisation of existing capacities, quantitative increase in output of consumer intermediate,

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capital goods and improvement of productivity. It aims at an annual growth rate of eight per cent of industrial production during the five-year period. As per the index of industrial production, the average growth rate achieved during the Sixth Plan was 5.5 per cent per annum compound. The growth during the years was rather uneven four per cent in 1980-81, 8.6 per cent in 1981-82, 3.9 per cent in 1982-83, 5.3 per in 1983-84 and 5.8 per cent in 1984-85. It may however be mentioned that the above growth rates as indicated by the index of industrial production are generally of a lower order as compared to the actual growth in the over_all manufacturing sector. The index (base 1970=100) has serious limitations in terms of inadequate coverage of newly emerging growth areas like electronics, petrochemicals, etc., which were virtually non-existent in 1970. The index also does not reflect the high-levels of growth in the small scale sector. A review of performance of industries in the Sixth Plan reveals that targets of capacity creation have been achieved for industries like aluminium, zinc, lead, thermoplastics, petrochemicals intermediates, electrical equipment, automobiles and consumer durables. Production targets were achieved in industries like petroleum, machine tools, passenger cars, motor cycle and scooters, TV receivers, etc. However, shortfall in production was reported for coal, steel, non-ferrous metals, cement, drugs and pharmaceuticals, textiles, jute manufacture, commercial vehicles, railway wagons, sugar, etc. Some of the major technology achievements of the Sixth Plan are: commissioning of 500 mw power generation unit, commencement of manufacture of 500 mw turbo generator and boiler and manufacture of fuel-efficient 800 cc passenger cars of contemporary technology of international level. In the fertilizer sector, manufacture of 1,350 tonnes per day fertilizer plant has commenced. In the steel sector, fully indigenous 3,200 cubic metre blast furnace and seven metre tall coke oven battery and equipment are now manufactured in the country. Similarly, large-sized heavy machinery for mining are now being manufactured, *e.g.*, long-wall mining equipment, eight cubic metre hydraulic excavators, etc.

In electronic industry, which has been identified as a sunrise industry in the Seventh Plan, higher production level than targetted has been achieved in the Sixth Plan. Higher levels of technology have been achieved in fields like LSI/VLSI circuits, manufacture of eight and 16 bit micro-computer chips, computers and micro processors, communication equipments, broadcasting and TV transmission equipments, micro electronics, electronic materials and components, etc.

During the Seventh Five Year Plan, the overall performance of industrial sector has been quite satisfactory. The average growth rate of the industrial sector comprising mining, manufacturing and electricity generation during the Seventh Plan period was 8.5 per cent. Though marginally short of the target of 8.7 per cent, this was much higher than the 3.5 per cent growth achieved during the Sixth Five Year Plan. Year wise achievements during the Seventh Plan were 8.7 per cent in 1985-86, 9.1 per cent

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in 1986-87, 7.3 per cent in 1987-88, 8.8 per cent in 1988-89 and 8.4 per cent in 1989-90.

The manufacturing sector, which achieved an average growth rate of 8.9 per cent during the Seventh Plan period, contributed significantly to the achievement of the higher growth rate in the economy. Within the manufacturing sector, two industry groups, manufacture of electrical machinery and chemicals and chemical products achieved growth rates of 25.8 per cent and 11.7 per cent respectively. These two group contributed about 61 per cent of the industrial growth in the manufacturing sector.

The significant growth in industrial production during the Seventh Plan is attributable to a number of factors, the most important being improvement in the performance of infrastructure namely power, coal, etc. The other contributory factors were: (a) changes in the area of licensing and procedures; (b) import of technology; (c) higher import of capital goods; (d) better utilisation of installed capacities; and (e) allowing broadbending of products in a number of industries. The Seventh Plan also witnessed a higher dose of liberalisation meausres such as (i) raising the assets limit for exemption to companies from the purview of MRTP Act; (ii) exempting 83 industries under the MRTP Act for entry of dominent industries; (iii) grant of exemption from licensing for industrial units with an investment of upto Rs 50 crore in backward areas and Rs 15 crore in other areas on the basis of a negative list; and (iv) delicensing non-MRTP, non-FERA companies for 31 industry groups and MRTP/FERA Companies in backward areas for 72 industry groups.

During the Seventh Plan, manufacturing and electricity sectors achieved a higher annual growth rates as compared to that of the Sixth Plan. The mining sector, however, witnessed a substantial slowdown in growth rate from 12.7 per cent in the Sixth Plan to 5.6 per cent in the Seventh Plan.

The growth of industrial production was lower at 8.4 per cent in 1990-91 as compared to 8.6 per cent in 1989-90. The manufacturing sector which accounts for more than three-fourth of the total weight in Index of Industrial Production, however, performed better by achieving a higher growth of 9.2 per cent as against 8.6 per cent in 1989-90. The two infrastructural industries namely mining and electricity registered a sharp decline in growth rates from 6.3 per cent to 3.5 per cent in the case of former and from 10.8 per cent to 8.6 per cent in the case of latter.

The statement of Industrial Policy announced by the Government of India on 24 July 1991 has brought about far-reaching changes both in the Policy and procedures. The major highlights of the New Industrial Policy are: abolition of industrial licensing except for short list of 18 industries, liberalisation in respect of foreign investment, technological dynamism, amendment of MRTP Act and stress on profitability of the public sector. The New Policy emphasises privatisation. The only areas where security and strategic concerns predominate are to be reserved for the public sector.

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The growth of industrial production was 'NIL' in 1991-92 as compared to 8.4 per cent in 1990-91. The manufacturing sector showed a negative growth rate of -1.5 per cent in 1991-92. The growth rate achieved in mining and quarrying sector was 0.8 per cent. However, electricity registered a marginal increase from 7.8 per cent in 1990-91 to 8.4 per cent in 1991-92.

PROGRAMME IMPLEMENTATION

The Ministry of Programme Implementation (now Department of Programme Implementation in the Ministry of Planning and Programme Implementation) was set up in September 1985, to usher in a new system of goal-oriented management to closely monitor implementation of anti-poverty programmes, performance of all industrial infrastructure sectors of economy and implementation of Central sector industrial projects costing over Rs 20 crore each. The Department, through its efficient system, prompt facilitative action and computerised network provided by the National Informatics Centre, is ensuring effective implementation of projects and programmes.

Infrastructure Monitoring by the Department of Programme Implementation aims at reviewing the physical performance with reference to the targets for the financial year of nine industrial infrastructure sectors namely power, coal, steel, railways, telecommunications, shipping and ports, fertilizers, cement and petroleum and natural gas, which have a pivotal role in the economic development of the nation. This involves identifying problem areas requiring action on a priority basis and coordinating the efforts of administrative ministries with a view to overcoming critical bottlenecks, determining intersectoral linkages for achieving optimal results with emphasis on better capacity utilisation.

Physical targets (for each area in respect of each infrastructure sector) are examined at the beginning of the year. Overall growth in infrastructure performance from 1985-86 to 1991-92 as also the trend in capacity utilisation from 1986-87 to 1991-92 is given in the tables 14.3 and 14.4 respectively.

All Central sector projects costing Rs 20 crore and above are continuously monitored, aggregating 311 projects with a total anticipated investment of Rs 1,01,828 crore as on 30 September 1992 on scientific basis using computer based project management systems. For the purpose of close monitoring 30 mega projects costing Rs 1,000 crore and above and 112 major projects costing Rs 100 crore to less than Rs 1,000 crore, are monitored through the online computerised Flash Reporting System.

All the 311 projects along with 169 medium projects are covered in a detailed quarterly report called Quarter Project Implementation Status Report. The number and anticipated investment of all the mega, major and medium projects may be seen in table 14.5. Besides continuous monitoring, review and problem solving role, the Department continuously reviews the system of project formulation, appraisal and implementation and gives sug-

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TABLE 14.3 ANNUAL GROWTH RATE OF INDUSTRIAL INFRASTRUCTURE SECTORS

(Percentage)

Sector	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92 Target	1991-92 Actual	1991-92 Actual Production
1. Power generation (Thermal, Hydel and Nuclear)	8.6	10.3	7.6	9.5	10.8	7.8	5.6	8.5	286.706(BU)
2 .Coal Production	4.7	7.3	9.0	7.6	3.4	5.4	3.9	8.3	229.26(MT)
3. Production at integrated steel plants									
(i) Hot metal	8.6	4.0	4.1	9.4	0.6	1.6	2.4	7.1	13.012 (MT)
(ii) Ingot steel	9.2	0.3	7.4	10.5	–1.8	4.4	2.7	8.9	12.047 (MT)
(ii) Saleable steel	11.2	5.7	4.5	7.2	–1.9	3.1	2.5	8.1	10.065 (MT)
4. Railway revenue earning goods traffic	9.4	7.4	4.5	4.1	2.6	2.8	4.7	6.0	337.43 (MT)
5 Cargo handled at major ports	12.5	3.5	7.6	9.5	1.2	3.0	–0.5	3.2	157.806 (MT)
6. Telecommunications									
i) Tel. instruments production	11.4	5.8	3.3	22.0	–27.3	12.9	—	–33.5	517.4 (000 Nos)
ii) Provision of new (net) tel. connections (monitored sector)	4.8	16.1	4.4	–1.8	23.2	11.8	3.6	47.0	317.9 7 7 (000 Nos)
7. Cement Production	9.8	10.4	8.1	13.2	2.3	6.4	5.2	10.3	53.7 (MT)
8. Fertilizer production									
i) Nitrogen	10.4	25.0	1.0	22.8	0.4	3.7	5.8	4.1	7.283 (MT)
ii) Phosphate	13.3	16.2	0.3	35.3	–20.4	14.1	8.3	23.7	2.538 (MT)
9. Petroleum									
i) Crude Oil production	4.1	1.0	–0.4	5.5	6.4	–3.1	–6.2	–8.1	30.343 (MT)
ii) Refinery throughput	20.7	6.5	4.5	2.2	6.4	–0.3	1.6	–0.7	51.423 (MT)

BU = Billion Unit
MT = Million Tonnes

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TABLE 14.4 TRENDS IN CAPACITY UTILISATION

Sector	1986-87 Actual	1987-88 Actual	1988-89 Actual	1989-90 Actual	1990-91 Actual	1991-92 Actual
1. POWER						
(Thermal PLF)						
Public	61.9	65.0	63.3	62.6	62.1	64.7
Central	49.2	49.8	53.5	51.6	53.0	50.6
State	57.5	61.2	67.6	63.2	69.5	56.7
Private	52.4	53.2	56.5	55.0	56.4	55.3
All India						
2. STEEL						
(Ingot Steel)						
Public (SAIL)	69	55	60	68	67	80
Private (TISCO)	97	104	105	96	97	104
Overall	—	62	67	73	72	84
3. FERTILIZER						
Nitrogen						
Public	53.4	65.4	66.1	71.1	66.7	69.0
Cooperative	83.0	93.3	100.2	110.6	107.7	112.8
Private	95.4	99.1	86.9	98.1	96.8	106.3
Total	70.3	79.1	77.6	82.2	82.8	88.3
Phosphate						
Public	59.7	71.6	65.6	86.3	53.7	92.3
Cooperative	113.9	110.7	95.6	95.9	72.4	113.2
Private	92.3	77.2	69.6	85.3	69.8	88.3
Total	83.9	80.1	71.5	86.9	65.3	92.2
4. CEMENT						
(Major Plants)						
Public	70	66	59	66	74	75
CCI	53	52	57	56	50	39
Others	59	57	58	60	60	55
Total	81	83	75	81	80	95
Private	81	83	75	81	80	95
All India	79	79	72	76	75	87

(Including Mini/white cement plants) with reference installed capacity.

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TABLE 14.5 FREQUENCY DISTRIBUTION OF PROJECTS IN SECOND QUARTER
As on 1 October 1992.

S. NO	NAME OF THE SECTOR	NO.OF MEGA PROJECTS	VALUE (RS CRORE)	NO.OF MAJOR PROJECTS	VALUE (RS CRORE)	NO OF MEDIUM PROJECTS	VALUE (RS CRORE)	TOTAL NO.OF PROJECTS	TOTAL VALUE (RS CRORE)
1	Atomic Energy	3	4158.00	1	196.65	-	-	4	4354.65
2.	Civil Aviation	1	2171.86	-	-	-	-	1	2171.86
3.	Coal	2	2700.17	35	12435.08	22	1355.83	53	16491.08
4.	Fertilizer	-	-	1	782.48	-	-	1	782.48
5.	I & B	-	-	1	114.44	8	299.96	9	414.40
6.	Mines	-	-	1	286.00	-	-	1	286.00
7.	Steel & Iron ore	2	7574.00	-	-	3	153.10	5	7727.10
8.	Chem. & Petrochem	1	1635.16	1	134.00	1	75.00	75.00	1844.16
9.	Petro & Natural Gas	5	12879.87	12	3063.76	4	235.18	21	16178.81
10	Power	12	22385.31	20	8957.50	8	568.80	40	31911.60
11.	Paper, Cement & Auto	-	-	4	1402.87	5	216.99	9	11619.86
12.	Railways	3	3814.40	29	5977.22	70	3161.34	102	12952.95
13.	Surface Transport	1	1086.79	6	1645.69	26	1424.43	33	4156.91
14.	Tele-Communicati on	-	-	1	219.36	22	716.50	23	935.86
	TOTAL	30	58405.56	112	35215.05	169	8207.13	311	101827.71

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gestions to improve the system and then it brings innovative changes after the Governments' concurrence. The DPI has also made efforts to improve the art of project management by increasing awareness through training programmes on the latest techniques of project management. This innovative system would help adoption of the strategic and tactical decisions without delay and would help speedy implementation of projects in the long run.

20– POINT PROGRAMME

The concern for human poverty and its eradication to improve human environment have been the central focus of our development planning in the country since the inception of the planning era. The explicit manifestation of the government's concern for poverty alleviation got its expression when the first 20-Point Programme was launched on 1 July 1975 under the connotation of '*Garibi Hatao*' which was conceived by the late Prime Minister Smt Indira Gandhi. This programme was implemented with a pragmatic success during 1975-76 and 1976-77 Annual Plans. Needless to mention that the Sixth Five Year Plan (1980-85) incorporated these programmes as guiding factors in the planning process. Taking the past experience, the original 20-Point Programme was further redefined, revitalized and announced to the Nation on 14 January 1982.

OBJECTIVES

(i) Increase irrigation potential, develop and disseminate technologies and inputs for dry land agriculture; (ii) Make special efforts to increase production of pulses and vegetable oil seeds; (iii) Strengthen and expand coverage of integrated rural development and national rural employment programmes; (iv)Implement agricultural land ceilings, distribute surplus land and complete compilation of land records by removing all administrative and legal obstacles; (v)Review and effectively enforce minimum wages for agricultural labour; (vi) Rehabilitate bonded labour; (vii) Accelerate programmes for the development of scheduled castes and scheduled tribes; (viii) Supply drinking water to all problem villages; (ix) Allot house sites to rural families who are without them and expand programmes for construction assistance to them; (x) Improve the environment of slums, implement programmes of house building for economically weaker sections and take measures to arrest unwarranted increase in land prices; (xi) Maximise power generation, improve the functioning of electricity authorities and electrify all villages; (xii) Pursue vigorously programmes of afforestation, social and farm forestry and the development of bio-gas and other alternative energy sources; (xiii) Promote family planning on a voluntary basis as a people's movement; (xiv) Substantially augment universal primary health care facilities and control of leprosy, TB and blindness; (xv) Accelerate programmes of welfare for women and children and nutrition programmes for pregnant women, nursing mothers and children, specially in tribal hill and backward areas; (xvi) Spread universal

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elementary education for the age-group 6-14 years with special emphasis on girls and simultaneously involve students and voluntary agencies in programmes for the removal of adult illiteracy; (xvii) Expand the public distribution system through more fair price shops, including mobile shops in far flung areas and shops to cater to industrial workers, students' hostels, and make available to students text-books and exercise books on a priority basis and to promote a strong consumer protection movement; (xviii) Liberalise investment procedures and streamline industrial policies to ensure timely completion of projects. Give handicrafts, handlooms, small and village industries all facilities to grow and to update their technology; (xix) Continue strict action against smugglers, hoarders and tax evaders and check black money; and (xx) Improve the working of the public enterprises by increasing efficiency, capacity utilisation and the generation of internal resources.

Various programmes were formulated to achieve the above objectives focussing mostly on the critical socio-economic constraints to development. The existence of human poverty was considered the single most adverse constraint to human development. The Sixth Five Year Plan was designed taking note of the micro-objectives of 20-Point Programme in the critical sectors which were accorded high priority in the planning process. The emphasis on agricultural productivity, rural employment, provision of safe drinking water, allotment of house sites to the rural families, improvement of slums, voluntary family planning, provision of basic health care, concern for environmental degradation, spread of elementary education, accelerating welfare programmes for the women and the children were the most positive features of the revised 20-Point Programme which were spelt out keeping in view the basic objective of the development planning that the fruits of planning must ensure the 'basic needs' of human beings if development process is at all to be sustainable.

While the various evaluation reports indicate different positive impacts, the major impact of the 20-Point Programme in the country was the re-distribution of productive assets in favour of the less privileged who are the backbone of the economy. From the point of view of a sustainable growth, these programmes not only improve the productivity in the rural sector but also increased the overall quality of life in the villages to a perceptible degree.

20–POINT PROGRAMME 1986

In the light of the experience and achievements of the revised 20-Point Programme-1980 and the emerging new socio-economic problems during the Seventh Plan (1985-90), the programmes were re-structured in 1986 with the directions given by the then Prime Minister Shri Rajiv Gandhi, which was popularly known as 20-Point Programme–1986. The re-structured programmes came into effect from 1 April 1987 alongwith Annual Plan of 1987-88.

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OBJECTIVES

1. Attack on rural poverty: (i) Ensure that poverty alleviation programmes reach all the poor in every village; (ii) dovetail wage employment programmes with programmes for area development and human resource development and create national and community assets like school buildings, road, tanks, fuel and fodder reserves; (iii) correlate the various rural development programmes to-improve productivity and production-expand rural employment; (iv) promote handlooms, handicrafts, village and small industries and improve skills for self-employment and (v) revitalize *Panchayats*, cooperatives and local bodies.

2. Strategy for rain-fed agriculture: (i) improve the technology for conserving moisture and ensure better management of land and water resources; (ii) develop and distribute appropriate and improved seeds; (iii) reduce vulnerability to drought through suitable changes in drought-prone areas and drought-relief programmes.

3. Better use of irrigation water: (i) develop the catchment areas and improve drainage in basins and deltas; (ii) improve irrigation management in command areas; (iii) prevent water logging, salinity and wasteful use; (iv) coordinate the use of surface and ground water.

4. Bigger harvests: (i) revolutionise rice production in the Eastern Region and other areas of low productivity; (ii) achieve self-reliance in edible oils; (iii) secure greater production of pulses; (iv) intensify the cultivation of fruit and vegetables; (v) augment facilities for modern storage, processing and marketing of agricultural produce; (vi) help livestock and dairy farmers to increase productivity; (vii) develop fish farming and sea fishing.

5. Enforcement of land reforms: (i) complete compilation of land records; (ii) implement agricultural land ceilings; (iii) distribute surplus land to the landless.

6. Special programmes for rural labour: (i) enforce minimum wages for unorganised labour in agriculture and industry; (ii) fully implement law abolishing bonded labour; (iii) involve voluntary agencies in programmes for the rehabilitation of bonded labour.

7. Clean drinking water: (i) provide safe water for all villages; (ii) assist local communities to maintain the sources of such water supply in good condition; (iii) pay special attention to water supply for SCs and STs.

8. Health for all: (i) improve the quality of primary health care; (ii) fight leprosy, TB, malaria, goitre, blindness and other major diseases; (iii) provide immunisation for all infants and children; (iv) improve sanitation facilities in rural areas, particularly for women; (v) pay special attention to programmes for the rehabilitation of the handicapped.

9. Two child norm: (i) bring about voluntary acceptance of the two-child norm; (ii) promote responsible parenthood; (iii) reduce infant mortality; (iv) expand maternity and child care facilities.

10. Expansion of education: (i) universalise elementary education with special emphasis on girls' education; (ii) improve the content of education

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at all levels; (iii) promote non-formal education and functional literacy programmes, including promotion of skills; (iv) stimulate adult literacy programmes, with the participation of students and voluntary agencies; (v) emphasis on national integration and social and moral values and instill pride in our heritage.

11. Justice to Scheduled Castes and Scheduled Tribes: (i) ensure compliance with the constitutional provisions and laws for the SCs and STs; (ii) ensure possession of land allotted to SCs and STs; (iii) revitalise the land allotment programme; (iv) organise and assist special coaching programmes to improve educational standards; (v) eradicate scavenging and undertake special programmes for the rehabilitation of *Safai Karamcharis*; (vi) provide better direction and adequate funds for the Special Component Programmes; (vii) pursue programmes for the fuller integration of SCs and STs with the rest of the society; (viii) ensure the rehabilitation of tribals displaced from their habitat.

12. Equality for women: (i) raise the status of women; (ii) enhance awareness of the problems of women; (iii) create mass consciousness about women's rights; (iv) implement a national programme of training and employment for women; (v) enable women to participate with equality in socio-economic development and nation-building; (vi) rouse public opinion against dowry and ensure effective implementation of anti-dowry legislation.

13. New opportunities for youth: (i) enlarge opportunities for youth in sports, adventure and cultural activities; (ii) promote physical fitness; (iii) involve youth on a massive scale in projects of national development such as: (a) the cleaning of the Ganga (b) the conservation and enrichment of the environment (c) mass education; (iv) identify outstanding young persons in all fields to encourage and develop their talents; (v) involve youth in promoting national integration, cultural values, secularism and scientific temper; (vi) expand the network of *Nehru Yuvak Kendras;* (vii) strengthen the National Service Scheme and the National Cadet Corps; (viii) encourage voluntary agencies working for the welfare of rural youth.

14. Housing for the people: (i) make available house sites to the rural poor; (ii) expand programmes of house construction; (iii) lay special emphasis on construction of houses for SCs and STs; (iv) develop low cost building materials.

15. Improvement of slums: (i) restrict the growth of slums; (ii) provide basic facilities in existing slum areas; (iii) encourage planned house building in urban areas.

16. New strategy for forestry: (i) grow more trees and raise more forest, with the full involvement of the people; (ii) protect the traditional rights of tribal populations and local communities of access to fuel wood and forest produce; (iii) reclaim wastelands for productive use; (iv) plant appropriate vegetation in hilly desert and coastal areas.

17. Protection of the environment: (i) enhance public awareness of the dangers of environmental degradation; (ii) mobilise popular support for environmental protection; (iii) promote recognition that enduring develop-

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ment demands preservation of the ecology; (iv) ensure judicious site selection for project and proper choice of technology.

18. Concern for the consumers: (i) bring essential consumption goods within easy reach of the poor; (ii) build a consumer protection movement; (iii) restructure the distribution system so that subsidies reach the most needy; (iv) strengthen the Public Distribution System.

19. Energy for the villages: (i) expand the supply of electricity for productive use in the villages; (ii) develop alternative sources of energy, particularly biogas; (iii) promote integrated area specific programmes for rural energy.

20. A responsive administration: (i) simplify procedures; (ii) delegate authority; (iii) enforce accountability; (iv) evolve monitoring systems from block to national level; (v) attend promptly and sympathetically to public grievances.

While the restructured 20-Point Programme renewed the Nation's commitment to eradicate povery, it laid balanced emphasis on how to raise overall productivity, reduce income inequalities and remove social and economic disparities so that the ultimate fruits of development resulted in improvement of quality of human life. The coverage of the programme was broadened to bring within its ambit a number of major areas of social concern for fulfilling not only the "basic needs" like adequate provision of food, clean drinking water, housing and health facilities it laid more emphasis on human dignity and individual rights by encouraging 'responsible' parenthood, equality for women, opportunities for the youth, rights of consumers, justice to scheduled castes and scheduled tribes, etc.

MONITORING AND EVALUATION

Three tier systems for monitoring and evaluation of the implementation of the programmes are carried out *i.e.*: (a) at the agency level which are entrusted with the execution of the programmes in the field; (b) at the state level which provide infrastructure and direction for programme execution and (c) at the Central level not only by the sectoral Ministries and Departments but also by the Department of Programme Implementation, under the Ministry of Planning and Programme Implementation, which oversees the monitoring and evaluation system on a continuous basis and reports to the Cabinet Secretariat and the Prime Minister's Office.

ASSESSMENT OF IMPACT OF 20–POINT PROGRAMMES

A statement showing the targets and achievements of the major 20-Point Programmes on all India basis for 1989-90, 1990-91, 1991-92 and 1992-93 (April-December) is given in table 14.6 which shows the relative success and future of the programme.

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TABLE 14.6 TARGETS AND ACHIEVEMENTS

Sl.	Item	Unit	ACHIEVEMENTS 1989-90	ACHIEVEMENTS 1990-91	ACHIEVEMENTS 1991-92	TARGET 1992-93	ACHIEVEMENTS APRIL DEC.'92
1.	IRDP (Families)	000 Nos.	3, 301.2	2, 877.3	2, 437.2	1, 875.1	1, 185.2
2.	Jawahar Rozgar Yojana	Lakh Mandays	8, 285.8	8, 425.9	7, 765.3	7, 762.5	3, 901.2
3.	SSI Units (Regd.)	000 Nos	162.0	174.6	183.3	140.3	119.3
4.	Distribution of Surplus Land	000 Acres	118.1	89.9	143.6	150.7	63.2
5.	Bonded Labour Rehabilitation	Nos.	9,759	2, 679.0	1, 824.0	2,279	1,331
6.	Drinking Water Problems (VLG)	Nos.	5, 4180	40, 969.0	34, 122.0	35, 493	19,152
7.	Community Health Centres	Nos.	177	76.0	116.0	259	52
8.	Primary Health Centres	Nos.	1,489	1,648.0	195.0	759	86
9.	Sub Centres	Nos.	8, 934.0	496.0	—	—	—
10.	Immunisation of Children	Lakh Nos.	181.8	214.9	199.1	242.9	137.0
11.	F.P. Sterilisation	000 Nos.	4. 061.1	4, 053.0	3, 930.6	5, 224.6	2,376.2
12.	Eqv. of Sterilisation	000 Nos.	2,275.4	2,503.1	2, 105.0	2, 961.7	1, 460.8
13.	ICDS Blocks Oprl. (Cum)	000 Nos.	1803	2, 017.0	2, 428.0	2,595	2,598
14.	Anganwadies (Cum)	000 Nos.	196.5	215.9	249.3	282.8	270.9
15.	SC Families Assisted	000 Nos.	2, 227.0	2, 084.4	2, 083.3	2, 595.6	1, 018.8
16.	ST Families Assisted	000 Nos.	978.5	822.4	830.2	895.9	468.9
17.	House Sites Alloted (Families)	000 Nos.	884.2	771.5	1, 215.7	601.4	628.0
18.	Construction Assistance (Families)	000 Nos.	410.9	421.1	478.2	360.3	350.8
19.	Indira Awas Yojana for SC/ST (Houses)	000 Nos	167.3	147.4	208.6	117.6	124.3
20.	EWS Houses Provided	000 Nos.	34.5	76.8	97.1	115.2	42.9
21.	LIG Houses	000 Nos.	64.8	59.0	59.1	53.7	20.3
22.	Slum Improvement (Pop)	000 Nos.	2, 013.2	1, 922.7	1, 608.0	1, 177.7	721.5
23.(i)	Tree Plantation	Lakh Nos.	34,186	26, 341.1	17, 657.9	14, 500.0	13, 196.3
(ii)	Area to be covered[1]	000 Hectares	—	701.1	947.0	1, 064.0	895.6
24.	Fair Price Shops Opened	Nos.	4, 262.0	2, 427.0	5, 643.0	1512	2, 899
25.	Villages Electrified	Nos.	15,892	10, 203.0	5, 819.0	4,240	1, 358
26.	Pumpsets Energised	000 Nos.	528.8	551.8	543.9	256.8	226.7
27.	Improved Chullahs	000 Nos.	1, 913.8	1,756.6	1,713.8	1,625.0	627.2
28.	Bio-gas Plants(States)	000 Nos.	134.50	136.4	135.6	114.4	67.4

1. Prior to 1990-91, the targets were fixed in terms of Tree Plantation only.

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15 Agriculture

ECONOMIC regeneration attempted in successive Five Year Plans has made agriculture a pride of national economy. This sector, today provides livelihood to about 70 per cent of the labour force, contributes nearly 32 per cent of Net National Product and accounts for a sizeable share of total value of the country's exports. It supplies bulk of wage goods required by non agricultural sector and raw material for a large section of industry. Per capita net availability of foodgrains went up to a level of 511 grams per day in 1991 as compared to that of 395 grams in early fifties. In 1992, it has however been provisionally estimated lower at 476 grams per day. In terms of gross fertilizer consumption, India ranks fourth in the world after USA, the erstwhile USSR and China. The country has the largest area in the world under pulse crops. In the field of cotton, India is the first one to evolve a cotton hybrid. The country has made a major breakthrough in prawn seed production and pest culture technology.

Compound growth rate in agricultural production during the period 1949-50 to 1991-92 is 2.70 per cent per annum. Production of foodgrains increased significantly from 549.2 lakh tonnes in 1949-50 to 1670.6 lakh tonnes in 1991-92. Cropping pattern is more diversified and cultivation of commercial crops has received new impetus in line with domestic demands and export requirements. During post-green revolution period *i.e.* 1967-68 to 1991-92, growth rate in agricultural production was assessed at around 2.78 per cent per annum. Production of foodgrains during this period increased from 950.5 lakh tonnes to 1, 670.6 lakh tonnes. Cropping pattern has undergone perceptible changes and non traditional crops like summer *moong*, soyabean, summer groundnut, sunflower, etc., are gradually gaining importance. In order to utilise scarce resources optimally, a short duration third crop is also being raised in some areas utilising residual moisture available from post-*Kharif* and post -*Rabi* cultivation.

The index of agricultural production, which registered an increase of 21 per cent in 1988-89 and 2.1 per cent in 1989-90 over the previous year showed further increase of 2.7 per cent in 1990-91 due to primary increase recorded in the production of rice, wheat, pulses, oilseeds, jute and mesta, sugarcane and other commercial crops. During 1991-92, it however recorded a fall of 2.3 per cent due to fall in the production of various foodgrains. The index of foodgrains production during 1991-92 showed a fall of 4.3 per cent over the previous year's production index of 181.4. Foodgrains production during 1991-92 declined by about 93

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lakh tonnes over previous year's production primarily due to adverse weather conditions during the south-west monsoon season (June-September) 1991. Availability of edible oils including *vanaspati* has also increased significantly and its production in 1987 was 9,47,153 metric tonnes. The country has been able to sustain and improve availability of basic comsumption articles and has thus, raised the standard of living. Some key indicators of agricultural progress are shown in table 15.1

HARVESTING SEASON

There are three main crop seasons, namely;kharif, rabi and summer. Major kharif crops are rice, *jowar, bajra,* maize, cotton, sugarcane, sesamum, soyabean and groundnut. Major rabi crops are wheat, *jowar,* barley, gram, linseed, rapeseed and mustard. Rice, maize and groundnut are grown in summer season also.

LAND UTILISATION

Land utilisation statistics are available for 92.7 per cent of the total geographical area of 3, 287.3 lakh hectare. According to land use statistics available from states, area under forests had increased from 404.8 lakh hectare in 1950-51 to 677.6 lakh hectare in 1989-90. Net sown area increased from 1, 187.5 lakh to 1395.2 lakh hectare during the same period. Broad cropping pattern indicates that though foodgrains have a preponderance in gross cropped area as compared to non-foodgrains their relative share came down from 76.7 per cent during 1950-51 to 69.8 per cent during 1989-90.

SEEDS

Seed is the basic agricultural input and it has always been critical to higher agricultural production. Over a span of four decades since Independence, India has transformed itself from a subsistence economy and food importing country to one which is self-sufficient in foodgrains. Recognising seed as the primary input for increasing agricultural production, the Central government established the National Seeds Corporation (NSC) in 1963 and the State Farms Corporation of India (SFCI) in 1969 to encourage the production and distribution of certified seeds of various crops. Thirteen state seed corporations have also been established to supply improved seeds to farmers.

BREEDER SEED

Breeder seed is the first stage of the seed production chain. This seed is produced by scientists in the ICAR institutes and in agricultural univer-

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TABLE 15.1 SOME KEY INDICATORS OF AGRICULTURAL PROGRESS

Item/Unit	1950-51	1960-61	1970-71	1980-81	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91 (Revised)	1991-92 (Final)
1. FOODGRAINS PRODUCTION (lakh tonne)											
(i) Rice	206	346	422	536	638	606	568	705	736	743	737
(ii) Wheat	65	110	238	363	471	443	461	541	499	551	551
(iii) Other Cereals	154	237	306	291	262	268	264	315	348	327	263
(iv) Total Cereals	425	693	966	1,190	1,371	1,317	1,294	1,561	1,582	1,621	1,550
(v) Total Pulse	84	127	118	106	134	117	110	138	129	143	121
(vi) Total foodgrains	509	820	1,084	1,296	1,504	1,434	1,404	1,699	1,710	1,764	1,671

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sities. The Seeds Division coordinates the demand side while the ICAR organises production. A major achievement was fixation of uniform prices for breeder seeds in advance during 1992-93. This covers paddy, maize, sorghum, *bajra,* wheat, *ragi,* barley, pulses, fibre crops (jute, mesta and cotton), fodder crops and oilseeds. Fixation of prices enables indenting agencies to have a better idea of future costs.

FOUNDATION SEED

Foundation seed is the seed produced from breeder seed. It is produced by the National Seed Corporation, state seed corporations, agricultural universities and in those states which do not have seeds corporations by the state departments of agriculture. NSC and SFCI concentrate on national varieties while state seeds corporations and agricultural universities produce state level varieties. Foundation seed production was 3.74 lakh quintals during 1991-92. The estimated production for 1992-93 is 3.93 lakh quintals.

CERTIFIED SEED

Certified seed is the progeny of foundation seed. Quality seed denotes seed meeting the same standards as the certified seed but not directly produced from foundation seed. Certified/quality seeds distribution has increased from 55.01 lakh quintals in 1985-86 to 57.50 lakh quintals during 1991-92. The target for 1992-93 has been proposed at 53 lakh quintals for certified seeds only. Table 15.2 indicates the certified/quality seed distribution from 1988-89 to 1991-92 and target for 1992-93.

TABLE 15.2 DISTRIBUTION OF CERTIFIED/QUALITY SEEDS

(Quantity in lakh qtls.)

Crop	1988-89	1989-90	1990-91	1991-92	1992-93 (Tentative)
Cereals	33.94	34.82	34.41	35.31	36.70
Pulses	3.48	3.52	3.54	3.77	4.30
Oilseeds	11.12	8.76	8.69	9.21	5.45
Potato	6.26	7.66	8.00	6.62	1.80
Fibres	1.80	2.02	2.20	2.33	4.75
Others	0.20	0.26	0.26	0.26	–
Total	56.80 (35.39)[1]	57.04 (38.75)[1]	57.10 (40.88)[1]	57.50 (43.00)[1]	53.00[2]

1. Figures in bracket indicate certified seeds included in the total.
2. For 1992-93, it is only for certified seeds.

SEED SUPPLY PLAN

As in the previous year 1991-92, Department of Agriculture and Cooperation (DAC) had organised zonal seed conferences for *Kharif* and *Rabi* seasons with the state governments, NSC, SFCI, SSCs and other seed producing agen-

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cies to discuss the programme for production and distribution of seeds. These meetings provided a useful forum to plan the requirements and availability of seeds. Apart from these meetings, periodic review of seed availability in accordance with the supply plan finalised in the zonal conferences, has been introduced to ensure timely availability of seeds. The availability position of seed was satisfactory to meet the requirement. In order to give greater attention to the production and distribution of high quality vegetable seeds, separate vegetable seeds review meetings were held with various states, SSCs, NSC, SFCI and other concerned agencies.

TRANSPORT SUBSIDY ON SEEDS

The main purpose of this scheme is to subsidise the difference of cost of transportation of seeds by rail and road to the north-eastern states including Sikkim. In the case of Assam, 50 per cent of the quantities needed by the state would be reimbursed based on the actual transport cost difference between rail and road. In respect of other north-eastern states including Sikkim, 100 per cent subsidy in terms of transport cost difference between rail and road is provided because the state capitals of north-eastern states are not connected with rail facilities. Upto the end of Seventh Plan period, the scheme was operated through NSC/SFCI at a cost of Rs 106 lakh. A sum of Rs 62 lakh was also incurred during the Annual Plans 1990-91 and 1991-92. For the year 1992-93, a provision of Rs 30 lakh has been kept for operation of the scheme through NSC/SFCI.

NATIONAL SEEDS PROJECT-III

National Seeds Project Phase-III has been launched at a total cost of Rs 236.01 crore with the World Bank assistance of US $ 1500 lakh in March, 1990 with the following objectives: (i) to assist the farmers by ensuring timely and adequate availability of certified/quality seeds of suitable varieties at resonable prices; (ii) to improve the working efficiency of the national and state level public sector seed corporations, so as to make them economically viable and (iii) to provide facilities for the growth of private seed industry through adequate institutional finance. The implementing agencies of the project are: (i) Project Monitoring Unit (PMU) of Department of Agriculture and Cooperation (DAC); (ii) state department of agriculture of the eleven participating states, namely, Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Uttar Pradesh and West Bengal; (iii) Department of Agricultural Research and Education (DARE) and (iv) National Bank of Agricultural and Rural Development (NABARD).

The project beneficiaries are: (a) National Seeds Corporation (NSC); (b) State Farms Corporation of India (SFCI); (c) State Seeds Corporation of eleven participating states; (d) 32 institutes under the Indian Council of Agricultural Research (ICAR); (e) state agricultural universities of the participating states; (f) state seed certification agencies of the participating

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states and (g) private seed companies whose loan would be refinanced by NABARD.

The Agreed Action Plan together with the Memorandum of Understanding in respect of state seeds corporations of Andhra Pradesh, Gujarat and Uttar Pradesh have been finalised and signed with the concurrence of the World Bank. Substantial progress has been achieved in the implementation of Agreed Action Plan. Agreed Action Plan in respect of NSC and SFCI has also been finalised and is under implementation. The strengthening of Varietal Development Programme through ICAR system has been taken up through 32 identified ICAR institutes for which an amount of Rs 8.95 crore has been released to these institutes through ICAR.

Under the project, 10 state seed certification agencies are to be strengthened. Out of these SSCAs of Assam, Andhra Pradesh, Madhya Pradesh, Karnataka and Uttar Pradesh have been taken up for strengthening at a cost of rupees five crore. Five additional state seeds corporations of Assam, Karnataka, Madhya Pradesh, Maharashtra and West Bengal have been taken up during 1992-93 for management studies. To ensure growth of private seed industry, an amount of Rs 147.05 crore has been placed at the disposal of NABARD which has so far sanctioned about Rs 57 crore for development of infrastructure and research and development facilities.

QUALITY CONTROL

The main purpose of the scheme is to ensure the quality control programmes of seeds. The quality control as envisaged in the Seeds Act, 1966 is to be achieved through pre and post marketing quality control and the voluntary certification and compulsory labelling of the seeds of notified varieties. The scheme has three components as per details given below: (a) setting up of National Seeds Training Centre (NSTC); (b) strengthening of State Seed Testing Laboratories (SSTLs) and (c) providing secretariat support to Central Seed Committee (CSC) and Central Seed Certification Board (CSCB).

A nationwide network of seed testing laboratories forms the backbone of the system for checking the quality of seeds under the Seeds Act. In view of the advances made in seed testing technology, eight laboratories have had their seed testing equipment upgraded and have become elite seed testing laboratories which not only check genetic purity and germination standards but the vigour of the seeds. Modern electro-phoresis equipment which measures genetic purity through analysing the distinctive proteins found in the seed has also been given to the elite seed testing laboratories. A sum of Rs 120 lakh was released for upgrading of these laboratories. In 1992-93, two more laboratories of Himachal Pradesh and Punjab are to be upgraded to elite status.

Suitable provisions for ensuring the quality control of seeds already exists in the Seeds Act, 1966 and the rules framed thereunder. Necessary powers for enforcing the quality control measures have already been

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delegated to the state governments. To ensure prescribed standards of quality, seed testing is undertaken by various state seed testing laboratories and more than 4.93 lakh samples were tested during the year 1991-92 against the target of four lakh samples.

Certification of seed is voluntary in nature and the seeds of notified kinds/varieties could be offered for certification to the certification agencies of the state governments set up for this purpose. As per the provisions of Section 8 of the Seeds Act, 1966, state governments/union territories have established state seed certification agencies. The progress of seed certification from 1987-88 to 1991-92 is given below.

(Qty in quintals)

Year	Foundation seed	Certified seed
1987-88	4,52,855	26,20,914
1988-89	5,59,334	36,99,144
1989-90	5,06,862	36,84,952
1990-91	5,74,544	29,62,260
1991-92	2,44,511[1]	21,17,665[1]

[1] Provisional

NEW POLICY ON SEEDS

A new policy on seed development is under implementation since 1988. It ensures access to the Indian farmers to the best seeds available anywhere in the world with a view to maximise their yield and farm income. The policy covers various incentives to the seed producing/distributing agencies to increase the availability of seeds in the country. To improve the seed production technology and also to import parental material in the country, seed companies entered into financial/ technical collaboration with foreign companies for transfer of parental line/ technology. Import of 38.5 lakh seedling/ cutting, 4,115 quintal crop seeds and export of 500 quintals of various seeds has been recommended by DAC during 1992-93 *ie.* upto September 1992.

NATIONAL SEEDS CORPORATION

National Seeds Corporation (NSC) was set up in 1963. The authorised capital of the Corporation is Rs 20 crore and the paid-up capital is Rs 20.09 crore, at present. Out of the paid-up capital a sum of Rs 8.11 crore was invested in the equity participation of the state seeds corporations under NSP-I and NSP-II as per directions of the Government of India. Thus, the effective share capital of the Corporation is only Rs 11.98 crore at the end of March 1992. The accumulated loss of the Corporation at the end of March 1992 was to the tune of Rs 27.55 crore. NSC is engaged in production and marketing of foundation and certified seeds through the contract

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growers. The Corporation has two small breeder seed production farms of its own at Nandikotkur, Andhra Pradesh and Bangalore. The breeder, foundation and certified seed produced by NSC during the last three years are given in table 15.3

TABLE 15.3 PRODUCTION OF SEEDS BY NSC

Quantity in quintals

Year	Breeder Seed	Foundation	Certified seed	Total seed
1989-90	1, 806	23,131	3,80,244	4,05,181
1990-91	1, 647	10,487	2,02,846	2,14,980
1991-92	1, 389	24,661	2,81,524[1]	3, 07,574
1992-93	2, 185[2]	35,356[2]	4,76,000[3]	5,13,541[3]

1. Anticipated 2. Target 3. Tentative

Messers Tata Consultancy Services had undertaken a diagnostic review of the Corporation and identified areas of strength and weaknesses in order to improve the working of the Corporation. In order to reduce excess man-power which was one of the basic reasons for the continuous losses, the management of the Corporation introduced Voluntary Retirment Scheme (VRS). Suitable action to implement the recommendations of the consultants has already been initiated by the managemet of the Corporation.

STATE FARMS CORPORATION OF INDIA

State Farms Corporation of India (SFCI) was established in 1969 under the Companies Act, 1956 to maintain the erstwhile Central State Farms run by Department of Agriculture. At present, there are 13 farms under the management of SFCI in different parts of the country with an area of 36, 664 hectares. The principal programmes of the Corporation are to produce seeds of foodgrains, fibre crops, plantation crops, oilseeds, vegetables and fruits in various parts of the country. The authorised capital of SFCI as on 31 March 1992 was Rs 25 crore and paid-up capital Rs 23.20 crore. The accumulated loss of the Corporation during this period further declined from Rs 5.81 crore to Rs 3.73 crore. The Corporation is earning profits for the last few years and the profits during 1989-90, 1990-91 and 1991-92 were Rs 90.44 lakh, Rs 141.62 lakh and Rs 208.15 lakh respectively. Total production of the Corporation during the three years are indicated below.

(Qty in quintals)

Year	Total Production	Seed Production
1989-90	4, 40,830	2, 13,090
1990-91	4, 32,965	1, 98,608
1991-92	5,47,422 Anicipated	2,11,440 Anticipated
1992-93	7,21,020 (Target)	2, 75,315 (Target)

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Even though, the Corporation has made significant improvement in its performance in the recent past, however, the Government had appointed operating consultants for undertaking a diagnostic study of SFCI under National Seeds Project Phase-III (NSP-III), a World Bank assisted project. The recommendations of the consultants are under implementation as per agreed action plan.

FERTILIZERS

Fertilizer is very essential for increasing productivity in agriculture. It has been estimated that about 70 per cent of growth in agricultural production can be attributed to increased fertilizer application. Increase in yearly consumption of fertilizers would thus be a good indication of the country's progress in agriculture. Total consumption of fertilizers went up from 69,000 tonnes of nutrients in 1950-51 to estimated level of 127.28 lakh tonnes during 1991-92.

SOIL TESTING

Soil testing is an important tool to advise farmers on judicious, balanced and efficient use of fertilizers for economic returns. There are 499 soil testing laboratories with analysing capacity of 65.70 lakh soil samples per annum. It is intended to expand the soil testing facilities. For determining the micro-nutrient deficiency in soils, 25 sets of atomic absorption spectro photometers have been provided to state governments uder the Indo-UK bilateral programme. Besides a number of such equipments have been installed by state governments/agricultural universitites.

BALANCED AND INTEGRATED USE OF FERTILIZER AND ORGANIC MANURES

Appreciable progress has been made in crop production by the increased use of NPK Fertilizers. Lately the intensification of agriculture coupled with the use of high analysis chemical fertilizers has resulted in soil micronutrient deficiencies in large areas. To ensure optimum benefit from 'NPK Fertilizers' it is necessary that they are applied on the basis of soil-testing results and, wherever necessary, in combination with micronutrients and farmers are being encouraged through extensive training to do this. Organic manures are essential for maintaining proper soil health. The country has a potential of 650 million tonnes of rural and 160 lakh tonnes of urban composite. Presently, the potential is not fully utilized.

FERTILIZER QUALITY CONTROL

Quality price and trade in fertilizers are regulated so that farmers get good quality fertilizers at the right time and at reasonable prices.The government has issued the Fertiliser (Control) Order, 1985 under the Essential Commodities Act 1955. This Order contains specifications of fertilizers being sold in the country, methods of sampling analysis and provision for

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appointment of enforcement agencies for regulating the trade and distribution of fertilizers.There are 47fertilizer quality control laboratories in various states.In addition, there is one Central Fertilizer Quality Control and Training Institute at Faridabad with its three regional centres at Bombay, Calcutta and Madras. Total analysing capacity of these laboratories in the country is 92,300 fertilizer samples per annum.The institute organises training programmes for state enforcement officers, state fertilizer analysis and for foreigners from developing countries. Besides, training courses for fertilizer dealers are also organised in collaboration with the state government and the fertilizer industry.

DEVELOPMENT OF BIO-FERTILIZERS

Decreasing non-renewable petroleum reserves all over the world and increasing cost of chemical fertilizers have necessitated search for alternative renewable sources to meet the increasing demand, for chemical fertilizers. Emphasis is being laid on integrated nutrient supply through combined use of fertilizers, organic manures and bio-fertilizers. Scientists have proved that bio-fertilizers are an effective, cheap and renewable supplement to chemical fertilizers. Rhizobium inoculants have been found to be effective for pulses, legume fodder, legume oilseeds like soyabean, groundnut and blue green algae (BGA) for low-land paddy.

Considering the prospect of bio-fertilizers, the government is implementing the national project on development and use of bio-fertilizers with a view to produce, distribute and promote bio-fertilizers use by organising training and demonstration programmes and also quality testing of bio-fertilizers. Under the scheme, one national centre at Ghaziabad in Uttar Pradesh and six regional centres at Bangalore, Bhubaneshwar, Hissar, Imphal, Jabalpur and Nagpur have been established. The anticipated production from these centres during 1992-93 is 125 tonnes of rhizobium inoculant. In addition to production, these centres have 'Culutre Collection Bank' with a good number of effective and promising strains. Quality-testing of bio-fertilizers have also been taken up at these centres. During 1991-92, 60 BGA centres have produced 300 tonnes and during 1992-93 also the production will be maintained at the same level.

SOIL AND WATER CONSERVATION

Soil and water conservation measures have been accepted as one of the essential inputs for increasing agricultural output in the country. These programmes were first launched during the First Plan. From the very beginning, emphasis has been on development of technology for problem identification, formulation and implementation of problem-oriented schemes, enactment of appropriate legislation and constitution of policy coordination bodies. While conceptual framework of soil and water conservation activities in the country has not changed, concept of programmes has undergone considerable revision during successive Five Year Plans.

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Main objectives of schemes in operation are: to minimise process of erosion and land degradaties to restore degraded lands; to ensure availability of water and soil moisture; to create micro level irrigation potential through water harvesting; to ensure rebuilding of internal fertility of soil through organic recycle particularly in resource poor regions; to enlarge effective productive exploitation zone to deeper soil profile by adopting mixed and companion farming system; to increase aggregate bio-mass production; to generate employment through continuous adjustments in optimum land use planning and to ensure collective security against recurring droughts and floods.

Programmes under state plan aim at conservation of soil and water mainly on agricultural lands with some components of land reclamation, soil and land use survey and raising of utility trees on private and common lands. Programmes sponsored by Soil and Water Conservation Division at national level in Department of Agriculture and Cooperation provide an overall perspective of problems like water and wind erosion, degradtion through water-logging, salinity, ravines, torrents, shifting cultivation, coastal sands in addition to declining man-land ratio, increasing and competing demands for land, diversion of arable land, loss of productivity and favourable provision of water into production system as well its information on problems and potential of various land uses. Major Central/Centrally sponsored schemes have been directed towards checking premature siltation of multi-purpose reservoirs, mitigating flood hazard in productive plains, re-settling of shifting cultivators and restoring degraded lands.

CENTRALLY SPONSORED SCHEMES

A Centrally-sponsored scheme of soil conservation in catchment of river valley projects launched during Third Plan with main objective to prevent premature siltation of multi-purpose reservoirs is now being implemented in 27 catchments covering 17 states including Damodar Valley Corporation area. Soil and water conservation programme is being implemented in critically degraded watersheds ranging between 2, 000 to 4,000 hectare in area. These are being delineated by All India Soil and Land Use Survey Organisation. The scheme has got inbuilt facilities for collecting silt load data along with various characteristics of watersheds under treatment. By 1990-91 an area of 24.86 lakh hectare is treated under the programme at the cost of Rs 341.38 crore. In addition to concurrent appraisal by project implementing authorities and Soil and Water Conservation Division, conservation work is also being evaluated by external agencies, namely, Administrative Staff College of India, Hyderabad and Agricultural Finance Corporation, Bombay.

Another Centrally sponosored scheme of integrated watershed management in catchments of flood prone rivers was launched during the Sixth Plan in eight flood-prone rivers of the Gangetic Basin covering seven states and one union territory. The scheme aims at enhancing ability of the catchment by absorbing larger quantity of rainwater, reducing erosion and consequent silt load in stream and riverbeds and, thus, helping to mitigate fury of floods in productive plains.

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Till the end of Seventh Plan an area of 2.40 m.ha. out of the total treatable area of 17.99 m.ha. in the catchments of River Valley Project was treated, which comes to 13.31 per cent of the treatable area. Similarly in the case of Flood Prone River scheme till the end of the Seventh Plan an area of 0.36 m.ha. out of the treatable area of 4.37 m.ha. was treated, which comes to about 8.30 per cent of the treatable area. A scheme for reclamation and development of ravine areas had been launched in 1987-88 in the Madhya Pradesh and Rajasthan.

It was felt that if this programme is to gain momentum it could be done only by generating sufficient interest for the programme content in the village communities residing in the catchment areas receiving treatment. It was obvious that people residing in catchment areas would have little stake in preventing siltation of the water reservoir down stream from which they derived almost no benefits. Thus experience gained over years necessitated revision of the Central guidelines to provide an approach to the treatment of the catchment areas with more emphasis on employment generating measures and low cost conservation practices by involving the local community in a big way to bring about integrated development and management of micro-watersheds which constitute the watersheds in the catchment areas. Such an approach alone would be able to generate the interest and the stake of the village communities residing in the catchment areas so that their precious top soil may not be washed away and they in turn would reap the benefits of *in situ* moisture conservation by resorting to low cost conservation practices. The revised guidelines in relation to the river valley projects and flood prone rivers schemes have attempted to put the village community of the catchment areas in the centre stage in order to generate a real people's programme for the treatment of the catchment areas to prevent siltation of reservoirs and rivers down stream.

A Centrally sponsored scheme for reclamation of alkali *(Usar)* soils initiated during the Seventh Five Year Plan is continuing in Haryana, Punjab and Uttar Pradesh. It was introduced to improve physical condition and productivity status of alkali soils for restoring crop production. The major components include assured irrigation water proforma development works like land levelling, deep ploughing, community drainage system, application of soils amendment, organic manure etc. The pattern of funding is 50:50 between the Centre and the concerned state governments on identified components. During the year 1992-93, 47, 880 hectare of land is proposed to be reclaimed, at an expenditure of Rs 6 crore against 28, 887 hectare treated at a cost of Rs 285.31 lakh in 1991-92.

Gujarat was added to the scheme from 1989-90. An area of 1.40 lakh hectare has been treated till the end of 1990-91, incurring an expenditure of Rs 53.06 crore. This scheme has been transferred to state sector programme with effect from 1991-92 as per decision of the National Development Council (NDC). Major components of the ravine reclamation programme are peripheral bunding to halt any further ingress of ravines, table-land treatment in vicinity of upstream of peripheral bund, afforesta-

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tion of medium and deep ravines for fuel, fodder, etc. and reclamation of shallow ravines with provisions of irrigation, wherever possible in order to rehabilitate degraded lands for cultivation/horticulture purposes. Major components of integrated watershed management programme are protection of table land, reclamation of shallow ravines, stabilisation for cultivation or horticultural plantation wherever irrigation has been made available and stabilisation of medium and deep ravines through afforestation for building fuel-fodder reserves.

For controlling shifting cultivation and permanently settling *Jhumia* (shifting cultivation), a pilot scheme was implemented in Arunachal Pradesh and Mizoram during 1986-87. In continuation, a large scale scheme to settle 25,000 Jhumia families in a period of five years was launched in nine states during 1987-88. The states include Arunachal Pradesh, Assam, Meghalaya, Manipur, Tripura, Nagaland, Mizoram, Orissa and Andhra Pradesh. A sum of Rs 43.55 crore was invested up to 1990-91 in different activities such as land development, irrigation, agriculture, horticulture, cottage industries, fisheries, social and fuel wood forestry and minimum housing programmes for the purpose. This scheme has also been transferred to the state sector programme with effect from 1991-92 as per decision of the National Development Council (NDC).

All India Soil and Land Use Survey Organisation with its seven regional/sub-regional centres throughout the country has been continuing the work of catchment delineation, codification and fixation of *inter se* priorities of watershed for development. In addition through a joint programme with Space Application Centre, ISRO, the Organisation has completed catchment characterisation studies in both the catchments of the Ukai and the Giribata. This includes identification and assessment of soil erosion, land degradation and sediment yield problems *vis-a-vis*, land use. The Organisation continued to provide support to determination of hydrologic soil groups, infiltration characteristics, building up of national natural resources data system etc.

By 1990-91, the Organisation has covered 106.39 lakh hectare under detailed soil survey, 150.75 lakh hactare under priority delineation surveys, 44.41 lakh hectare under reconnaisance survey and 8.198 blocks under simple soil survey in different states. An amount of Rs 16 crore has been spent during the period. The Organisation has also participated in improving methodology by applying remote-sensing technology and keeping abreast with present trend in the country and abroad.

The All India Soil and Land Use Survey is also engaged in the collaborative projects in mapping of selected drought prone districts and salt affected lands, prioritization of watersheds in the catchments of Narmada and Brahmaputra by using remote-sensing technique.

FARM MECHANISATION

Agricultural implements and machinery are a crucial input for efficient and timely land preparation, post-harvest and allied operations facilitating mul-

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tiple cropping and thereby increasing production. Though the use of agricultural machinery has been progressively increased, the improvement has mostly been in the nothern states and in a few pockets/areas where irrigation facilities have been developed. During 1991-92, 1, 50, 582 tractors were sold out of which Haryana, Punjab, Uttar Pradesh, Rajasthan and Madhya Pradesh accounted for about 71 per cent. Similarly, 7, 529 power tillers were sold in 1991-92 out of which about 75 per cent were sold in Assam, West Bengal, Karnataka, Tamil Nadu, Kerala and Maharashtra. By October 1992, 82,000 tractors were sold. The overall population of tractors has crossed over ten lakh and that of power tillers about 45,000. Inspite of these efforts, the comparative level of farm mechanisation continues to lag behind even other Asian countries. The number of tractors per thousand hectare in India was only 5.59 as against 9.27 for China, 9.02 for Pakistan and 12.72 for Asia as a whole.

AGRICULTURAL IMPLEMENTS

Since 1983-84, a thrust has been given to the popularisation of improved animal-drawn agricultural implements and hand-tools with the objective of reducing the drudgery of the farm operations and improving production and productivity. A comprehensive programme was drawn up to provide appropriate technology to the farmers particularly in the dryland area. Emphasis was on adoption and use of seed-cum-fertiliser drills. The scheme for establishment of Farmers' Agro Service Centres and popularisation of improved implements and hand-tools covered over 500 dryland blocks in 10 states. Extensive demonstrations at the block level were organised to make the farmers aware about the necessity, suitability and profitability of using improved implements and hand tools. Subsidy for purchase of identified implements and handtools was extended to the small, marginal and SC/ST farmers. Upto March 1992, a total of 1,146 Farmers' Agro-Service Centres were established, 87, 528 intensive demonstrations organised and 6, 20, 094 implements and handtools popularised amongst the farmers.

A Central Agricultural Implements Review and Release Committee was also constituted in 1983 to coordinate the research and development work in the field of agricultural machinery and to make available the latest improved agricultural implements and hand-tools to farmers suitable for use in the different agro-climatic zones. The Committee has so far released 36 numbers of such implements and machines A Central legislation, namely, the Dangerous Machines (Regulation) Act, 1983 has also been enacted to ensure supply of good quality power threshers to farmers conforming to safety standards of the Bureau of Indian Standards. Provisions of the Act stipulate payment of compensation to operators in the event of injury/death while working on these machines. Andhra Pradesh, Haryana, Jammu and Kashmir, Karnataka, Tamil Nadu, West Bengal, Madhya Pradesh, Maharashtra and the union territory of Delhi have already enforced the Act. Other states/union territories are in the process of enforcing it.

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FARM MACHINERY INSTITUTES

Farm machinery training and testing institute at Budni in Madhya Pradesh, Hissar in Haryana and Garladinnes in Anantpur district of Andhra Pradesh impart on-the-job training in the selection, operation and maintenance of farm machinery. These institutes are also engaged in the testing of tractors and other agricultural machinery as a service to users and manufacturers. In 1990, a fourth institute has been set up at Biswanath Chariali in Sonitpur district of Assam. The government plans to set up two more such institutes in Rajasthan and Tamil Nadu. These institutes have so far trained over 35,000 personnel and released over 1, 000 test reports on farm machinery.

STATE AGRO-INDUSTRIES CORPORATIONS

The Government of India promoted the establishment of 17 state agro industries corporation with the objective of streamlining input distribution and extending other agro-services to the farmers. These corporations have significantly contributed to agricultural development, improvement of agro-engineering services and promotion of agro-based industries during the last two decades. Corporations in Gujarat, Haryana, Madhya Pradesh, Maharashtra, West Bengal and Punjab earned profits totalling Rs 1, 171.24 lakh. The first and second National Productivity Performance Awards for 1990-91 in the agro-industries sector were won by the Gujarat and Punjab agro-industries corporations respectively.

PLANT PROTECTION

In order to minimise the over-dependence on hazardous chemical pesticides, the policy of Integrated Pest Management (IPM) adopted by government may further register advancement during the year. In this context, 26 Central Integrated Pest Management Centres in 23 states/UTs are popularising this approach among extension workers and farmers. Special campaign has been launched during 1992, to promote the package of IPM practices in rice and cotton crops through demonstrations and training of state extension functionaries as well as farmers. Surveillance for pests and diseases on economically important crops was carried out by sample roving survey in an area of 9.26 lakh hectare and about 16,670 lakh parasites and predators were released for controlling identified pests on important crops during 1992. By adopting IPM approach incidences of *Heliothis* on cotton and gram in Haryana, Punjab and other states was contained and sugarcane pyrilla was kept under control by conserving and augmenting its natural parasites in states of Haryana, Gujarat, Uttar Pradesh, Karnataka, West Bengal and Orissa.

A constant watch on locust in Thar desert area of 2 lakh sq km was maintained by conducting regular surveys around 28 stations situated in strategic areas of the desert. Locust population remained at low ebb throughout the year.

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The import of plant/plant material is regulated as per provisions of the Plants, Fruits, Seeds (Regulation of Import into India) Order, 1989 (PFS) issued under Destructive Insects and Pests Act, 1914 and New Policy on Seed Development (NPSD). Twenty-six plant quarantine and funigation stations operating at major seaports, airports, and land frontiers kept a constant vigil against the entry of exotic pests and diseases through international trade of plant material. To enhance the technical competence of extension functionaries, Central Plant Protection Training Institute, Hyderabad, continued to organise training programmes with special emphasis on Integrated Pest Management (IPM). A two day National Workshop for harmonising IPM packages for important crops was organised by the institute in which a total of 155 scientists and senior technocrats from various organisations *viz.* Department of Agriculture, ICAR/IARI and agricultural universities have participated.

The Registration Committee constituted under the Insecticide Act, 1968, received a total of 2,727 applications and granted 1,461 registration certificates for the pesticides. With a view to promote the use of safer and non-chemical pesticides in IPM, biocides and plant origin pesticides like *Bacillus thuringiensis* and neem-based pesticides have been provisionally registered and allowed commercialisation. The overall availability of pesticides has been satisfactory throughout the year. However timely action was taken to overcome the reported short supply of few pesticides.

HIGH YIELDING VARIETY PROGRAMME

High Yielding Variety Programme was started in 1966-67 as a major plank of agriculture strategy for increasing production of foodgrains in the country. Crop-wise details are shown in table 15.4

High Yielding Variety Programme is supported through a number of Central/Centrally sponsored schemes/projects *viz* (i) special foodgrains production programme-Wheat, (ii) speical foodgrains production progra-

TABLE 15.4 AREA UNDER HIGH YIELDING VARIETY PROGRAMME

(Lakh hectares)

Crop	1966-67	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92 "X"	1992-93 Target
Paddy	8.9	234.7	240.3	222.5	254.1	261.6	281.00	272.00	305.00
Wheat	5.4	190.8	191.9	196.9	201.8	202.9	204.00	214.00	222.00
Jowar	1.0	60.8	55.0	60.6	61.1	68.7	67.00	80.50	83.00
Bajra	0.6	49.9	52.7	39.5	58.7	55.9	5.00	60.00	63.00
Maize	2.1	18.0	21.9	21.5	25.4	22.6	26.00	30.00	32.00
Ragi	-	-	-	-	-	-	10.00	10.00	11.00
Total	18.9	554.2	561.8	541.0	601.1	611.7	639.00	666.10	716.00

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-mme-maize and millets and (iii) integrated programme for rice development. These thrust programmes are designed to increase the productivity and production of foodgrains through adoption of latest scientific production technology. Minikit demonstration programme aims at popularising newly released varieties and getting the newly evolved varieties tested under field conditions. For this a large number seed minikit containing 0.25 kg to 10 kg seed are distributed at a nominal cost to farmers.

The objective of maize and millets demonstrations in backward and tribal areas is to increase the adoption of latest production technology. This will bring about an increase in the per unit area production of maize and millets and thereby improve the economic conditions of the backward and tribal farmers. State level training programmes are being organised at agricultural universities and ICAR research institutes in collaboration with the concerned state agriculture departments to disseminate the latest crop production technology to the district/block level extension officers.

DRYLAND/RAINFED FARMING

About 990 lakh hectare in the country is rainfed accounting for 70 per cent of the net sown area of 1, 410.6 lakh hectare. Crops grown and cropping practices followed in these areas entirely depend upon the rainfall which is often erratic and unpredictable. Bulk of the crops like rice, *jowar, bajra*, other millets, pulses, oilseeds and cotton are grown in this area under rainfed conditions. Farmers in these areas, particularly, small and marginal farmers, are still practising subsistence farming and are in the vertex of vicious circle. Wide fluctuations in production occur in these areas year after year. Increasing and stabilising agricultural production in these areas is, therefore, of crucial importance.

Government has given high priority for the development of dryland areas and therefore, several programmes and projects have been launched for utilisation of potential of these areas for (i) realising the projected requirement of about 240 MT of annual food poroduction by 2000 AD and to smoothen out fluctuation in annual production; (ii) reducing regional disparities between irrigated and vast rainfed areas; (iii) restoring ecological balance by greening rainfed areas through appropriate mixture of trees, shrubs and grasses and (iv) generating employment for rural masses and reducing large-scale migration from rural areas to already congested cities and towns. Holistic approach for integrated farming system development on watershed basis in rainfed areas would be the main pursuit of the developmental activities under the National Watershed Development Project for Rainfed Areas (NWDPRA) in the Eighth Plan. The development of watershed, which is geo-hydrological unit or a piece of land that drains at common point, has been accepted as a national appraoch and strategy for development of dryland/rainfed areas. Government of India had suggested to states/UTs to make efforts for boosting up of production level in these areas by following integrated watershed development approach of different conservation-cum-production farming systems for developing

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rainfed areas in the country. In order to develop these areas, government has launched various projects in the field of watershed development funded at national as well as international levels. Brief account of the project is given below.

HIMALAYAN WATERSHED, MANAGEMENT PROJECT IN UTTAR PRADESH

Himalayan watershed management project in Uttar Pradesh was launched in 1983 with the assistance of the World Bank. The main objectives of this project were to minimise further deterioration of the Himalayan ecosystem caused by depletion of forest cover, over grazing, bad land use and careless road construction. Initially the project area was spread over 3.12 lakh hectare in two watersheds namely; Nayar in Garhwal and Panar in Kumaon regions of Uttar Pradesh. This area was later reduced to 2.47 lakh hectare. Total cost of the project was US $660 lakh with World Bank loan of US $312 lakh (revised). Original project period of seven years was extended by two years. The project expired on 30 September 1992.

PILOT PROJECT FOR WATERSHED DEVELOPMENT IN RAINFED AREAS

This pilot project for watershed development in rainfed areas is in operation since June 1984 with World Bank assistance in Andhra Pradesh, Karnataka, Madhya Pradesh and Maharashtra with a total cost of US $455 lakh including World Bank assistance of US $383 lakh for a period of seven years. The main objectives of this project are to increase and stabilise production of crops, forage, fuelwood and timber in selected rainfed areas through the use of proper technology and also to test and evolve appropriate organisational framework for project implementation. The project areas represent two major dry farming regions: (a) red soil regions in Andhra Pradesh and Karnataka and (b) black soil regions in Madhya Pradesh and Maharashtra. In 1984, four watersheds-one in each state, covering a total area of 1,11,550 hectare in 247 villages were taken up for development. Besides, in 1990-91, additional 24 watersheds covering 2,35,437 hectare in 590 villages of the four participating states have been taken up. The initial project period of seven years is being extended by three years on year-to-year basis. The project has already been extended upto December 1993.

DANIDA AIDED WATERSHED DEVELOPMENT PROJECT

This project has been launched in 1990-91 with assistance from DANIDA. The main objectives of this project are to develop appropriate land use system through soil and moisture conservation and tree plantation to increase the overall production in an area of 41,032 hectare in the districts of Belgaum and Dharwar of Karnataka. The total cost of the project is Rs 8.83 crore for four-and-a-half years.

COMPREHENSIVE WATERSHED DEVELOPMENT PROJECT

This comprehensive watershed development project in Tamil Nadu has been launched in 1990-91 with assistance from DANIDA. The project covers an area

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of 18,000 hectare in the district of Tirunelveli at a total cost of Rs 6.25 crore for three-and-a-half years. The objectives of this project are to contain further erosion and develop sustainable and cost efficient systems for utilisation of several types of land and to create long-term opportunities for employment.

INTEGRATED WATERSHED DEVELOPMENT PROJECT (HILLS)

Integrated Watershed Development Project (Hills), being implemented with World Bank assistance, is operating in Himachal Pradesh, Jammu and Kashmir, Punjab and Haryana covering an area of 1.24 lakh hectare at a total cost of US $1,256 lakh for a period of seven years. The main objectives of this project are to slow and reverse degradation of the natural environment through the use of appropriate soil and moisture conservation technology.

INTEGRATED WATERSHED DEVELOPMENT PROJECT (PLAINS)

This Integrated Watershed Development Project (Plains) is being implemented with World Bank assistance in Gujarat, Orissa and Rajasthan at a total cost of US $620 lakh to cover an area of 4.33 lakh hectare, in a period of seven years. The main objectives of this project are to slow down and possibly reverse ecological degradation in a variety of agro-ecological zones by promoting sustainable and replicable production system. In addition, many other international/bilateral projects like FAO/UNDP assisted project on 'Community Based Programme' for sustainable farming systems in fragile watersheds', DANIDA assisted watershed development projects in Orissa and Madhya Pradesh, EEC assisted Doon Valley Project, Bhimtal Project, etc. are at the finalisation stage and likely to be implemented shortly.

NATIONAL WATERSHED DEVELOPMENT PROJECT FOR RAINFED AREAS

A Centrally sponsored scheme of National Watershed Development Project for Rainfed Areas (NWDPRA) was launched in 1990-91 in 25 states. In the Eighth Five-Year Plan, this programme has been restructured to achieve the twin objectives of sustainable production of bio-mass and restoration of ecological balance in the vast rainfed areas of the country. It will specially focus on: (i) conservation, upgradation and utilisation of natural endowments like land, water, plant, animal and human resources in a harmonious and integrated manner with low-cost, simple, effective and replicable technology; (ii) generation of massive employment and (iii) reduction of inequalities between irrigated and rainfed areas.

It is targetted to cover an area of about 28 lakh hectare in all the community development blocks of the country where less than 30 per cent arable area is under assured means of irrigation with an outlay of Rs 1,080 crore. The requisite integrated watershed development plans of the identified areas are being developed and executed through people's participation with the help of identified *Mitra Kisans* and *Gopals*. The project would be implemented by the participating state governments through cent per

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cent assistance comprising 75 per cent grant-in-aid and 25 per cent loan to the state.

Salient achievements in the field of integrated watershed development are as follows: (i) unified command approach of multi-disciplinary team has proved to be an effective organisational set-up for implementing the watershed management development programme; (ii) contour farming in both black and red soil regions has shown encouraging results in increasing the yields of different crops; (iii) different farming systems based on contour vegetative barriers in watershed development programme has shown substantial *in situ* moisture conservation and yield increased and (iv) cropping intensity has increased significantly following the integrated approach of farming. In order to strengthen the activities of watershed development of the country, a full-fledged Division of Rainfed Farming and Watershed Development and Management has been created in the Ministry of Agriculture at Central level.

HORTICULTURE

India has emerged as the second largest producer of fruits and vegetables in the world. The largest producer of fruits and vegetables are Brazil and China, respectively. Our production has reached over 280 lakh tonnes of fruits and about 580 lakh tonnes of vegetables. The production of plantation crops is on the increase. Horticultural exports have increased significantly and have proved to be one of the most important area in overall growth of traditional exports such as cashew, spices, by-products of coconut (coir) and dry fruits specially walnut. Exports of fruits, vegetables, flowers, tissue cultured and other ornamental plants have an unmatched potential. Recognising the need for filling the gaps for providing necessary infrastructure and encourage further exports, the coordinated project alongwith the agencies of Ministry of Commerce has been formulated for about Rs 600 crore which involve government, public sector institutions and private agencies for achieving the desired goal.

The main thrust during the current year has been to increase the production and productivity through providing inputs and high technology to existing plantations. The other major thrust is on assistance on post-harvest infrastructure and market information under which the National Horticulture Board has provided pre-cooling facilities to the growers and cold storage facilities at the airports. Market information services for export has also been arranged which can be provided on payment.

The Central scheme on the use of drip irrigation system has continued during the year with an outlay of Rs 20 crore. Under this programme 50 per cent subsidy is offered to small, marginal and other farmers with an area upto 4 ha. To promote the use of plastics in horticulture crops through setting up of polygreen houses has been extended to almost all states of the country.

Under Indo-Italian project on temperate fruit crops the demonstrations laid on olive cultivation have shown very excellent results. This has a very

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AGRICULTURAL PRODUCTION
(In Lakh Tonnes)

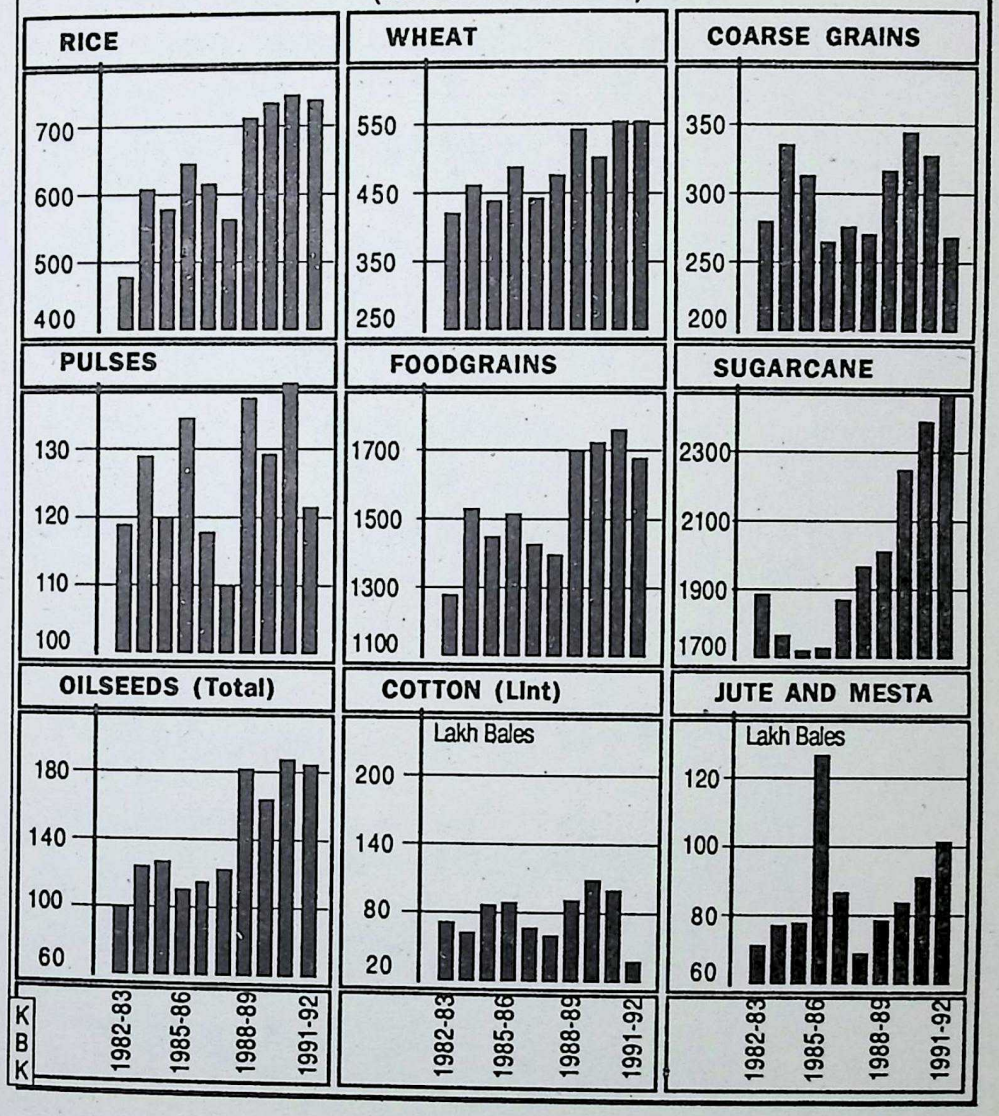

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TABLE 15.5 AREA, PRODUCTION AND YIELD OF PRINCIPAL CROPS— ALL INDIA

A-Area in lakh hectare
P-Production in lakh Tonnes/Bales
Y-Yield in Kg/Hectare

Crops		1950-51	1960-61	1970-71	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91 (Revised)	1991-92
Rice	A	308.10	341.28	375.92	401.52	407.08	382.62	412.44	411.59	411.37	411.67	388.06	417.36	421.67	426.87	423.08
	P	205.76	345.74	422.25	536.31	532.48	471.16	600.97	583.36	638.25	605.57	568.62	704.89	735.73	742.91	736.64
	Y	668	1013	1123	1336	1308	1231	1457	1417	1552	1471	1465	1689	1745	1740	1741
Wheat	A	97.46	129.27	182.41	222.79	221.44	235.67	246.72	235.65	229.97	231.31	230.63	241.09	235.02	241.67	229.80
	P	64.62	109.97	238.32	363.13	374.94	427.94	454.76	440.69	470.52	443.23	461.69	541.10	498.50	551.35	550.87
	Y	663	851	1307	1630	1691	1816	1843	1870	2046	1916	2002	2244	2121	2281	2397
Jowar	A	155.71	184.12	173.74	158.09	165.99	163.76	164.32	159.39	160.97	159.48	159.99	145.99	148.38	143.58	125.92
	P	54.95	98.14	81.05	104.31	120.62	107.53	119.19	114.02	101.97	91.85	121.96	101.70	128.98	116.81	83.57
	Y	353	533	466	660	727	657	725	715	633	576	762	697	869	814	664
Bajra	A	90.23	114.69	129.13	116.57	117.84	109.42	118.32	106.19	106.52	112.66	87.14	120.46	102.00	104.77	100.36
	P	25.95	32.83	80.29	53.43	55.37	51.31	77.26	60.47	36.64	45.14	32.98	77.80	66.49	68.94	46.44
	Y	288	286	622	458	470	469	653	569	344	401	378	646	610	658	463
Maize	A	31.59	44.07	58.52	60.05	59.35	57.20	58.59	58.00	57.97	59.23	55.61	58.97	59.15	59.04	57.82
	P	17.29	40.80	74.86	69.57	68.97	65.49	79.22	84.42	66.44	75.93	57.21	82.29	96.51	89.62	79.83
	Y	547	926	1279	1159	1162	1145	1352	1456	1146	1282	1029	1395	1632	1518	138
Total Cereals	A	782.30	920.18	1017.82	1042.10	1052.95	1022.62	1076.21	1039.36	1036.05	1040.39	984.23	1045.28	1033.58	1031.73	990.41
	P	424.14	603.14	966.04	1189.62	1217.88	1176.62	1394.80	1335.76	1370.79	1317.11	1293.92	1560.73	1581.78	1621.25	1550.13
	Y	542	753	949	1142	1157	1151	1296	1285	1323	1266	1315	1493	1530	1571	1565
Gram	A	75.70	92.76	78.39	65.84	78.68	73.99	71.61	69.04	78.05	69.84	57.67	68.10	64.70	75.21	56.53
	P	36.51	62.50	51.99	43.28	46.42	52.90	47.51	45.62	57.88	45.32	36.26	51.29	42.17	53.56	41.55
	Y	482	674	663	657	590	715	663	661	742	649	629	753	652	712	735
Total	A	190.91	235.63	225.34	224.57	238.43	228.33	235.42	227.37	244.18	231.56	212.72	231.46	234.15	246.62	225.64

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Pulses	P	84.11	127.04	118.18	106.27	115.07	118.57	128.93	119.63	133.61	117.07	109.62	138.49	128.58	142.65	120.51
	Y	441	539	524	473	483	519	548	526	547	506	515	598	549	578	534
Total	A	973.21	1155.81	1243.46	1266.67	1291.38	1250.95	1311.63	1266.73	1280.23	1271.95	1196.96	1276.74	1267.73	1278.35	1216.05
Food grains	P	508.25	820.18	1084.22	1295.89	1332.95	1295.19	1523.74	1455.39	1504.40	1434.18	1403.53	1699.22	1710.36	1763.90	1670.64
	Y	522	710	872	1023	1032	1035	1162	1149	1175	1128	1173	1331	1349	1380	1374
Grou-	A	44.94	64.63	73.26	68.01	74.29	72.15	75.39	71.68	71.25	69.82	68.44	85.29	87.10	83.09	86.72
undnut	P	34.81	48.12	61.11	50.05	72.23	52.82	70.85	64.36	51.21	58.75	55.54	96.59	81.01	75.15	70.66
	Y	775	745	834	736	972	732	940	898	719	841	855	1132	930	904	815
Rapeseed	A	20.71	28.83	33.23	41.13	43.99	38.27	38.74	39.87	39.80	37.19	46.19	48.32	49.67	57.82	64.70
and Mustard	P	7.62	13.47	19.76	23.04	23.81	22.07	26.08	30.73	26.81	26.05	34.55	43.77	41.25	52.30	58.41
	Y	368	467	594	560	541	577	673	771	674	700	748	906	831	904	903
Total	A	107.27	137.70	166.44	176.03	189.07	177.55	186.89	189.24	190.20	186.26	201.32	218.97	228.00	241.48	254.28
Nine Oilseeds	P	51.58*	69.82*	96.30	93.72	120.80	99.95	126.92	129.46	108.32	112.71	126.55	180.33	169.24	186.09	182.77
Sugar		481	507	579	532	639	563	679	684	570	605	629	824	742	771	719
cane	A	17.07	24.15	26.15	26.67	31.93	33.58	31.10	29.53	28.49	30.79	32.79	33.29	34.38	36.86	37.86
	P	570.51	1100.01	1263.68	1542.48	1863.58	1895.06	1740.76	1703.19	1706.48	1860.90	1967.37	2030.37	2255.69	2410.46	2492.56
	Y	33422	45549	48322	57844	53859	56441	55978	57673	59898	60444	60006	60992	65612	65395	65831
Cotton	A	58.82	76.10	76.05	78.23	80.57	78.71	77.21	73.82	75.33	69.48	64.59	73.43	76.95	74.40	76.95
(Lint)$	P	30.44	56.04	47.63	70.10	78.84	75.34	63.87	85.07	87.27	69.05	63.82	87.44	114.22	98.42	98.36
	Y	88	125	106	152	166	163	141	196	197	169	168	202	252	225	217
Jutel	A	5.71	6.29	7.49	9.41	8.26	7.34	7.60	8.33	11.46	8.03	6.97	6.91	6.77	7.78	8.65
	P	33.09	41.34	49.38	65.08	67.88	59.46	63.25	65.31	108.86	73.53	57.93	67.10	70.72	79.17	88.51
	Y	1043	1183	1186	1245	1480	1458	1498	1411	1710	1649	1496	1748	1879	1833	1842
Mestal	A		2.74	3.31	3.59	3.24	2.86	2.93	2.96	3.48	2.65	2.61	2.28	2.29	2.39	2.42
	P	Not	11.29	12.55	16.52	15.82	12.25	13.99	12.56	17.61	12.73	9.85	11.49	12.7	13.11	13.32
	Y	Available	742	684	828	880	771	858	764	910	865	680	919	956	988	990

$ Five Major oilseeds viz., Groundnut, Rapeseed and Mustard, Castorseed, Sesanue and Linseed.

$- MProduction in lakh bales of 170 kgs each

1_ Production kin lakh kbales of 180 kgs each.

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high future as it can be grown under rainfed conditions in hilly areas and has oil of high value with low cholestrol. The Integrated Development Programme of Spices have been extended in the north eastern region especially in Nagaland and Arunachal Pradesh. Special attention was paid to check the incidence of quick-wilt disease in pepper. To encourage the development of cashew which has become a major export earner, development schemes were further enhanced with new provisions for prophylatic measures to control the growing incidence of pests in cashew plantations.

Schemes for the development of coconut by the Coconut Development Board included production and productivity enhancement programmes, with special emphasis on disease/pest affected areas.

Under the post harvest management scheme of National Horticulture Board, assistance has been provided to seven organisations for establishment of four grading/packing centres, three transport vehicles, 3,000 rigid plastic containers, six installation of retail outlets in consuming areas and sanctioned Rs 4.56 lakh provided to Dr. Y.S. Parmar University of Horticulture for undertaking research work on debittering of *kinno/malta* juice. The National Horticulture Board has strengthened the nutritional garden scheme for providing fruit plants to individual farmers. The market information service have also been strengthened covering 168 newspapers, 18 All India Radio stations and seven Doordarshan *Kendras*.

Government is also proposing several projects with foreign assistance. The European Economic Community (EEC) has shown interest in coconut and spices development programme. The World Bank has also been approached for taking up feasibility study on tropical horticulture development in the country covering important crops in nine states.

CATTLE AND BUFFALO DEVELOPMENT

India possesses 26 good breeds of tropical cattle and six breeds of buffaloes. India's cattle are well-known in the world for their quality of hardiness, endurance and resistance to tropical animal disease, especially tick-born and protozon infections. Because of these qualities, Indian cattle and buffaloes are sought internationally. Recognising the importance of cattle in rural economy and their contribution to the national income, both Central and state governments are devoting considerable attention for their development. Important state sector schemes initiated for development of cattle and buffaloes are key village blocks (KVBs) and intensive cattle development projects (ICOPs). These schemes aim at all-round development of cattle and attend to all aspects of cattle development in a planned coordinated manner. Under these and other schemes, more than 35,000 artificial insemination (AI) centres, have been set up to provide input and extension support in rural areas. The number of AIs with exotic bull semen increased from 143 lakh during 1990-91 to about 153 lakh during 1991-92.

Seven Central Cattle Breeding Farms at Suratgarh (Rajasthan), Dhamrod (Gujarat), Almadi (Tamil Nadu), Chiplima (Orissa), Similiguda (Oris-

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sa), Andeshnagar (Uttar Pradesh) and Hessarghatta (Karnataka) are engaged in scientific cattle breeding programme and progeny testing of selected breeds of indigenous as well as exotic cattle and buffaloes. These farms distributed more than 3,200 bulls/calves of superior genetic make-up for breeding. During the Seventh Plan period 2,237 artificial insemination centres, 17 frozen semen banks, four bull stations and eight training centres were established in various states with Central assistance. Additional 774 AI centres were switched over to frozen semen technology during 1991-92. During 1992-93, 125 AI centres switched over to frozen semen technology (upto February 1993).

Production of proven/superior cross-bred bulls is an essential activity in the cattle breeding programme. A Central sector scheme for production of proven bulls by progeny testing under field conditions has also been taken up in some states. During the Seventh Plan period, the programme was in operation in Andhra Pradesh, Assam, Kerala, Maharashtra and Orissa and 301 bulls were test-mated. During 1991-92, test-mating of 68 bulls was done. During 1992-93, as against the target of 80 bulls, test-mating of 66 bulls has been carried out upto January 1993. To improve the well recognised indigenous breeds of cattle and buffalo, assistance is provided to the state cattle and buffalo breeding farms to strengthen their infrastructural facilities. Seven state farms were assisted upto 1991-92. During 1992-93, upto December 1992, four cattle and buffalo breeding farms were taken up for strengthening. One of the latest technologies to be introduced in cattle and buffalo development is the embryo transfer technique. This is expected to serve as an effective tool for increasing productivity of cattle and buffalo through multiplication of superior breeding stock especially for production of breeding bulls and bull mothers.

SPECIAL LIVESTOCK BREEDING PROGRAMME

A scheme of special livestock breeding programme (SLBP) with objectives of: (a) involving small/marginal farmers and agricultural labourers in livestock production and (b) generating additional employment and income is in operation in selected districts of the country. SLBP consists of two components, namely: (i) rearing of calves and (ii) setting up sheep, poultry and piggery production units. The first component includes rearing of cross-bred females, cross-bred males of cattle and also of buffalo females. The programme has a mix of subsidy and loan arranged through financial institutions. During the Seventh Plan, a number of modifications had been made in the programme to make it more effective and offer wider choices of vocation to farmers. In 1991-92, nearly one lakh families were to be covered by assistance. An important ingredient of farmers, induction and training has also been introduced. Expenditure on the programme is shared on 50:50 basis between Central and state governments and cent per cent borne by the government in case of union territories. As a result of implementation of these schemes, significant progress has been made in the field of cattle and buffalo

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development. Consequently, the country's milk production is expected to increase from 563 lakh tonnes in 1991-92 to 586 lakh tonnes (anticipated) in 1992-93.

POULTRY DEVELOPMENT

Poultry is one of the important components of the farmer's economy. It provides additional income and job opportunities to a large number of rural population in the shortest possible time. As a result of government's efforts, strains of birds with high egg productivity and meat type birds have been developed in the country and dependence on imported grand parent stock has been minimised. During the Seventh Plan period, egg and broiler production registered a compound growth rate of 7.3 per cent and 18 per cent respectively. The annual egg production is estimated to have reached the level of 22 billion during 1992-93 as against the production level of 21.7 billion eggs during 1991-92.

Central poultry breeding farms at Bombay, Bhubaneswar, Hessarghatta and Chandigarh are engaged in scientific poultry breeding programme and have developed high egg production and hybrid and fast growing broiler strains. These farms are supplying parent-stock chicks. Central duck breeding farm at Hessarghatta, is catering to requirements of high egg productive *khaki* cambell breeding stock ducklings to various states/union territories. Four random sample poultry performance testing centres at Bangalore, Bombay, Bhubaneswar and Gurgaon conduct egg laying and broiler tests and provide useful information to poultry farmers, hatcheries and breeding organisations about performance of various participating layer and broiler stocks in the country (both from public/private sector organisations). Central Poultry Training Institute at Hessarghatta, is imparting short term practical courses in different disciplines of poultry to officials of state governments/union territory administrations, agricultural universities, research institutions and private sector organisations. Regional feed analytical laboratories at Chandigarh and Bhubaneswar provide feed analysis facilities to farmers, public and private sector organisations. The laboratory at Bombay also became functional during 1989-90. The National Agricultural Cooperative Marketing Federation (NAFED) has been entrusted with marketing of eggs and poultry at the national and regional levels.

SHEEP DEVELOPMENT

The sheep population in the country has been 457 lakh as per livestock census, 1987. It has been estimated that the average wool yield of sheep is less than one kg per year. Total wool production in the country during 1992-93 is expected to reach a level of about 442 lakh kg. Total requirement of wool in the country is about 790 lakh kg. per annum. Total availability of wool for carpet manufacture is estimated at around 200 lakh kg which is sufficient to meet present requirement of the carpet industry.

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Principal objective of sheep development is to make the country self-sufficient in wool production *vis-a-vis* meat production through scientific breeding and raise the status of sheep breeders/wool growers. Strategy for sheep and wool development encompasses production both for meeting requirement of apparel wool and carpet wool for export purposes. Breeding policy envisages selective breeding of important carpet wool breed and cross-breeding involving suitable exotic breeds with coarse carpet type. India is importing large number of exotic fine wool breed sheep from USA and Australia in a phased manner. Total raw wool production which was only 275 lakh kg during 1951 is expected to reach a level of about 455 lakh kg during 1993-94.

A Central Sheep Breeding Farm with exotic breed of sheep has been established at Hissar. At present, it is having a breeding programme with pure exotic breed as well as cross breeding for production of superior rams. It has distributed over 11,000 exotic/cross breed rams to different states since its establishment. The farm also trains officers and shepherds from different states in modern sheep management. National ram/buck production programme and programme for rabbit development as Centrally sponsored scheme has been introduced. The programme has four components *viz.* (i) grant-in-aid to large sheep breeding frams for production and supply of superior genetic make of rams, (ii) market intervention operation (MIO) for strengthening of state wool boards/ corporations/federations for streamlining the marketing system for wool, (iii) buck production (goat development) for improving the productivity of goats and (iv) programme for rabbit development.

MEAT PRODUCTION, PROCESSING AND EXPORT

There are at present, about 3,600 recognised slaughter houses in the country. It is the local body's obligation to provide for meat inspection in order to safeguard public health. To provide safe and wholesome meat and prevent environmental pollution, it is necessary to modernise the existing slaughter houses/abattoirs in the country and Government has made efforts in this direction in spite of various socio-economic constraints. Asia's biggest modern slaughter house is operating in Deonar, Bombay, while another abattoir of the Goa meat complex is functioning at Usgaon. A modern slaughter house has also been constructed at Durgapur (West Bengal) and the Majitar (Gangtok) slaughter house is in the final stage of construction. Inspite of the fact that most of the slaughter houses lack modern techniques and facilities, meat worth Rs 138 crore was exported during 1991-92. Besides this, other animal byproducts like casings etc., are also being exported. Byproducts like horn-meal, hoof-meal, bone-meal, crushed bone, steamed bone-gelatine glue, brush etc, have also been exported.

PIG DEVELOPMENT

There are more than 100 lakh pigs in the country, of which approximately 10 per cent are of graded and exotic variety. Pig farming has a great

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significance, as it can play an important role in improving the socio-economic status of sizeable section of the weaker rural communities especially in north eastern states where nearly every family in the village rears pigs for meat. At present, there are about 100 pig farm units in the country run by the state governments/union territories maintaining approximately 29,000 livestock (pigs). These farms breed pigs and supply boars and sows to the farmers for cross breeding and improvement of *desi* stock. The demand for exotic breed is on the increase. During the last five years, it is estimated that nearly 79,000 piglets have been distributed by the government farms to 28,000 farmers. Under a Central scheme the government has strengthened 12 pig breeding farms by providing them infrastructural facilities during 1991-92.

FEED AND FODDER

For improvement of our vast livestock resources through proper scientific methods, availability of nutritious feed and fodder is essential. To make available scientific fodder production technology, seven regional stations have been established in different agro-climatic zones, *i.e.* at Hissar (Haryana), Kalyani (West Bengal), Gandhinagar (Gujarat), Alamadi (Tamil Nadu), Hyderabad (Andhra Pradesh), Suratgarh (Rajasthan) and Shehama (Jammu and Kashmir). These are also engaged in producing and propagation of certified quality fodder seeds. During 1992-93, these stations are expected to produce 2500 quintals seeds of different fodder varieties and conduct about 1000 demonstrations.

Many sites are used for demonstration and training of farmers from nearby villages. A Central Fodder Seed Production Farm is in operation at Hessarghatta, Karnataka since 1980 and another fodder seed farm has been started by State Farms Corporation of India (SFCI) at Barpeta (Assam). Central Fodder Seed Production Farm, is expected to produce nearly 1,300 quintals of high-yielding fodder varieties, pasture grasses and legumas during 1992-93. A Central project of fodder minikit demonstration is under implementation for popularising high yielding fodder varieties on a large scale. Over one lakh kits are distributed annually. Work on search for right type of strains of different leguminous species has been intensified for hardy and drought-resistant pastures legume seeds in re-vegetation of vast culturable and unculturable wastes. Over 150 cultivators of different species of stylosanthes, macroptilium and deshmanthus have been obtained from Australia for testing in India at different sites. Multiplication of seed of various species of Stylosanthes such as *S. scabra, S. hamata, S. viscoss etc.* is being continued.

LIVESTOCK HEALTH

Several measures were taken up in the past for developing livestock health cover facilities in the country to prevent production losses to preserve the precious livestock and to implement successfully all development programmes in the country. Veterinary health cover is provided by polyclinics/veteri-

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nary hospitals/dispensaries/first aid centres including mobile dispensaries. The number of polyclinics/hospitals/dispensaries is expected to increase to 21,140 during 1992-93. Similarly, the number of first aid centres including mobile dispensaries are also likely to increase from about 18,400 in 1984-85 to about 19,450 during 1992-93. These institutions are fully supported by about 250 disease diagnostic laboratories functioning in states and union territories for quick and proper diagnosis of disease and effective control measures. There are 26 veterinary vaccine production units out of which 19 are in the public and seven in private sectors. The production of vaccines has increased from a level of 1,900 lakh doses in mid seventies to about 1,250 million doses now for combating major diseases of livestock and poultry.

DAIRY DEVELOPMENT

The importance of dairying extends well beyond the mere production of milk and milk products. It has provided numerous small/marginal farmers and agricultural labourers with supplemental employment and a regular source of income. The significant role played by cooperatives in stimulating dairying has also proved to be an important source of progress. Operation Flood (OF) programme, which is an integrated dairy development programme has made considerable progress in achieving its outlined objectives. The programme has helped 81 lakh farmers through 64,700 dairy cooperative societies. These societies have procured on an average 105.28 lakh kgs of milk per day during 1992-93. The programme has made a sound impact on rural masses and has encouraged them to take up dairying as a subsidiary occupation. It has offered a reliable and regular source of income as more than 62 per cent of milk procurement in the Operation Flood areas comes from the marginal, small and landless farmers. The programme is presently in its third phase, the first and second phase having ended in 1981 and 1985 respectively.

The milk production in the country which had been static at around 210 lakh tonnes at the beginning of Operation Flood is now estimated to have been increased to over 564 lakh tonnes during 1991-92 with the implementation of Operation Flood programme and other schemes of the Central and state governments. The Operation Flood has made a significant contribution in raising per capita availability of milk in India from 107 grams per day in 1970 to 181 grams per day in 1992.

TECHNOLOGY MISSION ON DAIRY DEVELOPMENT

Technology Mission on Dairy Development (TMDD) continued to lay emphasis on dovetailing of ongoing state government programmes in animal husbandry and dairy development. The empowered committee for TMDD reviewed some of the existing statutes related to dairy development and considered the need for introducing new statutes. Research programmes have been identified to support the mission and these programmes have been assigned to the national research institutes like National Dairy Research Institute, Indian Veterinary Research Institute, Indian Grass Forage Re-

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search Institute, National Dairy Development Board and to the agricultural universities on a time-bound basis.

FISHERIES

Fisheries play an important role in the economy of the country. It helps in augmenting food supply, generating employment, raising nutritional level and earning foreign exchange. Fisheries Division of the Department of Agriculture has been undertaking directly and through state governments various production-oriented, input supply and infrastructure development programmes besides formulating/initiating appropriate policies to increase production and productivity in fisheries sector. The main objectives of fisheries development programmes are (i) enhancing production and productivity of fishermen, fish farmers and fishing industry; (ii) increasing fish production and thereby, raising nutritional standard of people; (iii) earning of foreign exchange from export of marine products (iv) improving socio-economic conditions of traditional fishermen; (v) employment generation and (vi) conservation of depleted species of fish.

FISH PRODUCTION

Fish production has increased by about six times during the last 40 years. Growth of overall fish production of selected years is shown in table 15.8.

TABLE 15.8 PRODUCTION OF FISH

(lakh tonnes)

Year	Marine	Inland	Total
1950-51	5.34	2.18	7.52
1960-61	8.80	2.80	11.60
1970-71	10.86	6.70	17.56
1980-81	15.55	8.87	24.42
1984-85	16.98	11.03	28.01
1985-86	17.16	11.60	28.76
1986-87	17.13	12.29	29.42
1987-88	16.58	13.01	29.59
1988-89	18.17	13.35	31.52
1989-90	22.75	14.02	36.77
1990-91	23.00	15.36	38.36
1991-92	24.47	17.10	41.57

DEVELOPMENT OF INLAND FISHERIES

In recognition of the important role of inland fisheries in overall production of fish, Government has been implementing two important programmes in inland sector since Fifth/Sixth Plans. These are Fish Farmers Development Agencies (FFDA) and National Programme for Fish Seed Development. A network of 374 FFDAs is functioning now. Water area brought under intensive fish culture through the efforts of these FFDAs was 3.25 lakh hectare. Under the National Programme for Fish Seed Production, 43 fish seed

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hatcheries have been commissioned. On fish seed production front, marked improvement occurred as it has more than doubled from 500 crore fry in 1983-84 to 1,200 crore fry in 1989-90. The production was estimated to be about 1220 crore fry in 1991-92. A programme was taken up during the Seventh Plan for utilisation of organic waste for aquaculture under which six farms are being developed. A new scheme for development of reservoir fisheries in cooperative sector was initiated during 1989-90 in collaboration with the National Cooperative Development Corporation (NCDC) for development of 27,000 hectare reservoir area in Gujarat, Maharashtra and Karnataka.

DEVELOPMENT OF MARINE FISHERIES

Apart from four major fishing harbours *viz.*, Cochin, Madras, Vishakhapatnam and Roychowk 23 minor fishing harbours and 96 fish landing centres were constructed to provide landing and berthing facilities to fishing craft. Major fishing harbours are under construction at Sasoon Dock in Bombay and at Paradip.

Government is providing subsidy to poor fishermen for motorising their traditional craft which increases area and frequency of operation with consequent increase in catch and earning of fishermen. During the Seventh Plan, target was to motorise 5,000 craft and about 9,000 craft were motorised by the end of 1991-92. Improved beach landing craft made of fibre glass and other light materials are also being supplied to a group of fishermen.

BRACKISH WATER AQUACULTURE

Objective of this scheme is to utilise country's vast brackish water area for fish prawn culture. So far, projects covering an area of 2,070 hectare have been sanctioned. A pilot project for the construction of five pilot prawn farms and five prawn hatcheries taken up during the Seventh Plan with UNDP assistance was completed. Thirtyone Brackish Water Fish Farmers' Development Agencies (BFDA) are functioning in the coastal districts of the country at present.

WELFARE PROGRAMMES FOR TRADITIONAL FISHERMEN

There are three important programmes for the welfare of traditional fishermen, namely, (i) group accident insurance scheme for active fishermen; (ii) national welfare fund and (iii) savings-cum-relief for fishermen in maritime states. Fishermen are insured for Rs 21,000 in case of death or permanent disability and Rs 10,500 in case of partial disability. Annual premium is shared between Centre and states. Number of fishermen insured in 1991-92 was about 8.5 lakh. The programme of savings-cum-relief for marine fishermen was introduced from 1991-92 onwards. Under the scheme, the fishermen are induced for saving a modest amount of Rs 45 per month for a period of eight fishing months aggregating to Rs 360. Equal contributions are provided by

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the Central and state governments and the sum of Rs 1080, thus, accrued, will be distributed to the fishermen during the four lean fishing months at the rate of Rs 275 per month. About 1.25 lakh fishermen are targetted to be benefitted under the scheme during 1992-93.

SPECIALISED INSTITUTES

The Central Institute of Fisheries Nautical and Engineering Training (CIFNET), Cochin, aims at making available sufficient number of operators for deep-sea fishing vessels and technicians for shore establishments. It has a unit each at Madras and Vishakhapatnam. The Institute has an intake capacity of about 350 trainees in a year. Integrated Fisheries Project, Cochin, envisages processing, popularising and marketing of unconventional varieties of fish. The Central Institute of Coastal Engineering for Fisheries, Bangalore is engaged in techno-economic feasibility study for location of fishing harbour sites and brackish water fish farms.

EXPORT OF MARINE PRODUCTS

There has been a spectacular increase in export of marine products. It went up from Rs 597.85 crore during 1988-89 to Rs 1,375 crore during 1991-92. During the Eighth Plan marine products have been indentified as a major thrust area for exports.

AGRICULTURAL CENSUS

The Department of Agriculture and Cooperation has been conducting agricultural census in each of the Plan period since 1970-71 in collaboration with states and union territories on the recommendation of Food and Agriculture Organisation (FAO) of the United Nations. The censuses in 1970-71 and 1980-81 were organised as part of the World Agricultural Census Programme sponsored by the FAO. They were conducted on complete enumeration basis in states where the land records are maintained. In other states information was collected from 20 per cent villages on enquiry method. The other two censuses with agricultural years 1976-77 and 1985-86 as reference periods were conducted on a census-cum-sample basis to reduce the burden in collection and processing of primary data and also to keep costs low. The Fifth Agricultural Census with reference period 1990-91 has also been taken up on a census-cum-sample basis and the field work is nearing completion in most of the states/UTs.

Agricultural census seeks to collect information on distribution of holdings and area operated alongwith its related characteristics such as tenancy and terms of leasing, land use and cropping pattern, irrigation and source of irrigation etc., by different size classes. The data is utilised for formulation of poverty alleviation programmes in general and relief to small and marginal farmers in particular. As part of the agricultural census scheme, an input survey was also conducted for the first time in 1976-77 with a two

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per cent sample of villages conversed in the first stage of selection. The second and third input surveys with reference periods 1981-82 and 1986-87 were also conducted as part of agricultural censuses 1980-81 and 1985-86 respectively in seven per cent of the total villages in the country. An All India bulletin on input survey, 1986-87 containing detailed results has also been prepared. The fourth input survey with reference period 1991-92 is in progress in seven per cent sample of villages in the country.

The results of the agricultural census, 1985-86 have been finalised and an all India report containing salient features of the census has been printed and released. According to the results of the agricultural census 1985-86 the total number of operational holdings in the country had increased from 889 lakh in 1980-81 to 972 lakh in 1985-86. Operated area on the other hand had risen only marginally *i.e.* by about 0.5 per cent. Rise in number of holding without corresponding increase in area clearly showed pressure of population on land with average size of holding declining from 1.84 hectare in 1980-81 to 1.69 hectare in 1985-86.

Holdings operated by the scheduled castes and scheduled tribe households increased both in number as well as area operated during 1985-86 as compared to 1980-81. In the case of scheduled castes there has been an increase of 19.8 per cent in the number of holdings while the increase in the area operated by them was 9.7 per cent from 1980-81 to 1985-86. On the other hand the scheduled tribe holdings increased by 11.6 per cent while the area operated by them increased by 3.2 per cent during 1985-86 as compared to 1980-81. According to the agricultural census 1985-86 the area operated by scheduled caste holdings accounted for 7.7 per cent while the area operated by scheduled tribes accounted for 10.47 per cent of the total operated area. This clearly shows that there has been an improvement in the status of these social groups in the operation of land which may be attributed to various land reforms and other measures taken by the government.

AGRICULTURAL RESEARCH AND EDUCATION

The Department of Agricultural Research and Education set up in 1973 in the Ministry of Agriculture is responsible for coordinating research and educational activities in agriculture, animal husbandry and fisheries. Besides, it helps to bring about inter-departmental and inter-institutional collaboration with national and international agencies engaged in the same and allied fields. The Department provides government support, service and linkage to the Indian Council of Agricultural Research (ICAR).

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

Indian Council of Agricultural Research (ICAR) is a registered society and is the apex body responsible for promoting, conducting and coordinating research, education and primary extension education in the fields of agriculture, animal science, fisheries and the allied sectors in the country. In order

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to perform these functions in an integrated manner, ICAR has created a National Grid of Cooperative Research in which ICAR institutes, state agricultural universities and other educational and scientific institutions participated in their programmes as equal partners. The Council is directly involved in undertaking research through its 46 Central institutes including four national bureaux, 22 national research centres and nine project directorates on fundamental and applied aspects of individual crops, commodities and disciplines which have direct relevance to agriculture, animal husbandry, fisheries and allied sectors. In addition, ICAR also operates 70 all India coordinated research projects which are multi-locational and multi-disciplinary in nature on important commodities and research areas.

The whole country has been divided into 120 distinct agro-climatic zones and, in each of them, a multi-disciplinary regional research station has been established under ongoing national agricultural research project. These stations carry out research on multi-dimensional problems of local importance and on factors acting as constraints to the enhancement of agricultural production in a given zone. The educational programmes at the national level are by and large being conducted through 28 agricultural universities located in various important states. This includes the (NEHU) North Eastern Hill University, Manipur recently approved by the Cabinet. Four of ICAR's institutes. *viz*,. Indian Agricultural Research Institute, New Delhi, Indian Veterinary Research Institute, Izatnagar, National Dairy Research Institute, Karnal and Central Institute of Fishery Education, Bombay, also perform educational functions and offer post-graduate and basic programmes in the capacity of well-recognized deemed university and award degrees.

Through the Extension Education Window, the ICAR discharges the first-line extension responsibility of conducting demonstrations for transfer of improved agricultural technologies to farmers, extension functionaries of state departments of agriculture and other non-government agencies which are interested in agricultural development. Towards this end, the Council has been operating projects like national demonstrations, operational research projects and lab to land programmes at more than 300 centres in the country.

The Council has established a network of 187 *Krishi Vigyan Kendras* (KVK) for imparting on-farm training in various aspects of agriculture, animal husbandry, fisheries and allied areas for youth, farm persons and other categories of rural workers. These programmes also have a back-up support in the form of Trainers' Training Centres for providing an up-to-date knowledge of farm-worthy advancements made in research.

Agriculture will be more science-based and industry-linked by the close of this century. Bio-technology, genetic engineering, photosynthesis, tissue culture, bio-insecticides and pheromones are the emerging areas of research to promote growth of agricultural productivity. Accordingly, the ICAR has established three national research centres in biotechnology,

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agriculture, animal health and production at three national institutes. It involves biological nitrogen fixation, plant cell and tissue culture, molecular biology and biochemistry of crop plants especially oilseed plants using DNA recombinant technology developing monoclonal antibodies and hybridomes for cheaper and more effective immunodiagnostic and immunoprophylactic agents and multiple ovulation, embryo transfer technology, genetic manipulation and cryo-preservation. The following priorities and thrust areas in respect of agricultural research and education have been identified (a) conservation and planned exploitation of germ-plasm resources;(b) enhancing productivity through evolution of new high-yielding hybrids/varieties/breeds/strains with tolerance to biotic and antibiotic stresses; (c) development of integrated pest management practices to optimise plant protection; (d) breeder seed production; (e) research on export oriented commodities; (f) diversification of agriculture with emphasis on agro-forestry, livestock and fisheries; (g) development and refinement of dry farming technology; (h) improving nutrient management system; (i) inventory of natural sources; (j) energy management in agriculture; (k) post-harvest technology and engineering with emphasis on on-farm storage; (1) fostering excellence in research and educational programmes; (m) transfer of technology and improving information and communication systems and (n) human resource development.

CROP SCIENCES

Research advances in crop sciences including crop protection techniques have given the nation confidence to produce foodgrains to meet not only our present requirement but to achieve the target of 2,250-2,500 lakh tonnes of foodgrains set for the year 2000. During the year, emphasis was given on attaining higher crop productivity and sustainability of crop yield. High priority was given to develop improved varieties and hybrids of different oilseed and pulse crops, commensurate with production and protection technologies with a view to increase the overall production and availability of pulses, edible and non-edible oils in the country to save precious foreign exchange. Among the oilseed crops, the important ones are; groundnut variety, ICGS (FDRS)-10 and ICGS-44; mustard variety, NDR 8501; sunflower hybrid, MSFH-8, APSH-11; safflower, variety, HUS 305; sesame variety RT-54, linseed variety, LCK-8528, caster hybrid, GCH-4; and soyabeans variety, JS-80-21. In order to increase pulses production and productivity, pulses were brought under the technology mission on oilseeds and pulses. High yielding improved varieties developed during the year are: Yellow mosaic virus resistant *mungbean* varieties, PDM-11, PDM-54 and MUM-2; *Ascochyta* blight resistant chickpea variety, PGB-1; wilt and root rot tolerant variety, Uday of chickpea recommended for both irrigated and rainfed conditions for late sown cultivation; aurdbean variety TUP-4, suitable for cultivation in *kharif* and powdry mildew resistant, dwarf and leafless variety Aparna (HFP-4) of Pea. Programme for transfer of technology to the farmers was undertaken by organising front line demonstrations on pulses.

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The demonstration showed that increased production ranging 37 to 89 per cent in case of rabi pulses, 16 to 53 per cent kharif pulses and 15 to 70 per cent in summer pulses is obtainable, if improved varieties and recommended practices are followed.

Pearl millet variety, RCB-IC-9, suitable for cultivation under drought prone conditions was released. High yielding varieties, VL-149 of finger millet and GPUK-3 of kodo millet which is tolerant to grain smut were developed and released for cultivation. Extra early high yielding variety, VL-7, of buckwheat was released for cultivation in mid hills of Uttar Pradesh. Research efforts on commercial crops like cotton, tobacco and sugarcane led to the development of several high yielding varieties and hybrids. A hirsutum cotton variety, CNH-36 was released for irrigated tracts of western Maharashtra and Gujarat. A new intrahirusutum medium staple hybrid, CICRHH-1 with spinning potential of 30 to 40 connts has been released for Marathwada region of Maharashtra. The high yielding varieties of tobacco *viz.;* V-1158, Vashali Special and GT-7 were identified for cultivation in black soils of Andhra Pradesh; chewing tobacco area of Samastipur district of Bihar and rainfed areas of Gujarat respectively.

Production of quality seed is a vital link in the spread of new varieties and, hence, this programme was given a very high priority by executing national seed project. Phase III of this project has been taken up for further strengthening and expanding facilities for varietal development and production of higher quantity of quality breeder seed.

Sustainability and environmental quality have been the major consideration for developing crop protection programmes. Major thrust was given to promotion of IPM concept in all major crops. This included biological control of crop pests and diseases; mass multiplication and development of appropriate systems for dissemination of biological agents and use of novel methods such as insect growth regulators. Development of mass multiplication and field release technologies for many natural enemies like chrysopa and trichogramma were developed and popularised. The IPM recommendations for different agro-ecological zones and cropping systems for pests like heliothis were chalked out and widely popularised. Water hyacinth and water fern, the two serious weed pests, have been controlled successfully in Kerala and Karnataka using exotic natural enemies. American serpentine leaf miner, liriomyza trifolii a dreaded polyphagous pest hitherto not known to occur in India, was reported for the first time from the country. Research efforts are being made to devise the methods to contain further spread of this pest. The Italian honey bee is extremely popular in Punjab, Haryana and Himachal Pradesh among the apiarists due to its high honey yielding potential. This bee was successfully introduced in Bihar and Karnataka also where it is performing very well.

HORTICULTURE

The scientific technologies developed in horticultural and plantation crops have helped in increasing both their production and productivity. In fruits,

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a production level of 265 lakh tonnes has been reached largely due to superior vegetatively propagated planting material, regular-bearing hybrids of mango, high-yielding varieties of grapes, pomegranate, banana, *ber, aonla*, lime and *kinnow* etc., coupled with better crop production technologies, pest and disease control measures. High density plantation to increase production per unit area have been standardised in pineapple and banana. Tissue culture techniques have been standardised in banana and taken to field level.

The vegetable production has reached 509.9 lakh tonnes from an area of 45 lakh hectare due to 140 improved high-yielding varieties (including 16 F hybrids) in 17 vegetable crops evolved so far. Over 30 of these are resistant to diseases and pests. Similarly, the potato production has reached 160 lakh tonnes from 9.4 lakh hectare as a result of inclusion of eight new high yielding disease-resistant varieties growing in different parts of the country. Standardisation and recommendation of true potato seed as an alternative and innovative technology has improved the prospects of overcoming the inadequacy of planting material, elimination of the danger of seed borne diseases and successfully reducing the overall cost of potato production. Release of 18 improved high yielding varieties in six tuber crops (other than potato) like cassava, sweet potato, colocasia, amorphophallus, yam, etc,. have improved prospects of higher production of these crops for food and industrial purposes. Standardisation of production technology of mushrooms and identification of a high yielding strain of the temperature tolerant white button mushroom (*Agaricus bitorguis*) has made it possible to extend the time and area of production of mushrooms both in hills and plains.

A number of varieties developed in ornamental crops have given Indian floriculture a commercial bias. New varieties include *Arjun* and *Raktgandha* in rose, two improved hybrids in orchids and some promising selections in gladiolus, chrysanthemun etc., which have potential for export and have improved the prospects of giving floriculture a commercial bias. In plantation crops, 64 varieties have been developed/released and these are slowly spreading. Tissue culture in cardamom has already become commercial as also rapid propagation in black pepper. High production technology has been standardised in pepper and cardamom. Oil palm has become a new commercial crop.

In medicinal and aromatic plants over 12 improved varieties have been developed and improved agronomic practices developed. In the post-harvest technology, methods for improvement of shelf-life of fruits such as mango, guava and grapes; pre-harvest spray schedules to reduce post-harvest losses; maturity indices; CFB cartons for packing and transport of fruits; raising production; and stepping preservation were standardised. Methods for production of new products viz. *Ber* candy, *kokum* syrup, *sapota* fig, avocado pickle, whole tomato concentrate, *jamun* beverage, etc. have been standardised. Precooling technique in mango and Nagpur manclairs had also been developed.

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ANIMAL SCIENCES

Animal science research is related to: (i) improving production and productivity of different livestock species; (ii) reducing losses in production and productivity resulting from mortality and morbidity due to diseases and (iii) reducing losses in handling and processing of livestock products. Considerable amount of research work covering the areas of livestock improvement, animal health, animal nutrition and physiology and animal products technology has been done to bring about significant enhancement in animal production and productivity. In the area of animal genetic resources, facilities for DNA finger printing and studies on major histo-compatibility complexes have been developed. For livestock improvement, the germ-plasm of superior cattle breed/strains developed earlier is being made available in the form of breeding males/frozen semen. The new strains of cattle have produced on an average 3,400-3,700 kg milk per lactation. An elite herd of buffaloes with an average of 305 days lactation milk yield of 2,790 kg has been established for the production of future young sires and herd replacement by mating with proven sires.

Evaluation and genetic improvement for magra sheep has shown that it is an excellent breed for carpet wool production under arid conditions. Three new strains *viz, Avikalin, Avirastra and Avimanas* have been developed. The new strain of *mohair* goat evolved through the grading of *Sangammeri* goat with *angora* has produced 1.5 kg *mohair* at 87.5 per cent exotic inheritance. Three high-yielding poultry layer strain crosses, ILM-90 ILR-90 CARIGOLD and high yielding strains of broiler and wool rabbits have been evolved and released for commercial exploitation. In order to mitigate the shortage of feeds, new byproducts such as coconut pith, *Kokam* cake, decaffeinated tea-waste, uromol, *mahua* seed cake, sunflower straw, *kosum* cake, cocoa pods, maize cobs and *nahar* seed meal have been identified as feed resources. In animal physiology, techniques for freezing buck semen have been successfully developed after using specific diluents while embryo transfer technology has also been successfully applied to buffaloes and goats in addition to cattle.

Production of immunodiagnostics and vaccines have led to development of vaccines for sheep pox, egg-drop syndrome, infectious bursal disease, theileriosis and abortion due to salmonalla infection in horses. Utilizing hybridoma and recombinant DNA techniques, intensive studies have been carried out on rinderpest virus, buffalo pox virus and foot and mouth disease virus for the purpose of epidemiological studies. Among equines, studies have been carried out on equine influenza, equine infectious anaemia, glanders and equine herpes viral infection associated with reproductive disorders including abortion. Virus responsible for equine coital exanthema have been detected for the first time in India. DOT ELISA test has been standardised for the diagnosis of glanders, a zoonotic disease of horses.

The cell culture vaccine against theileriosis has been evolved and a large scale production of this vaccine has been taken up. Studies have shown that calves vaccinated with schizont culture develop sufficient immunity by day

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15 post vaccination. A simple, reliable and efficient DOT ELISA has also been developed for detection of theileria infection.

In the area of dairy technology, pure vegetarian processed cheese and cheese spread and low-fat icecream have been successfully prepared from cow and buffalo milk. Technology for the manufacture of long-shelf life *paneer* from recombined and reconstituted milk has been standardised using buffalo milk and butter milk, soy isolate and groundnut. A proto-type cream separation attachment for domestic mixer has been developed and tested. In meat technology, good quality sausages have been prepared from rabbit meat with chickpea flour as binder and animal fat which could be stored upto six days at 5-5^0 c. A new fermentation has been developed for chicken nuggets from spent hen meat which has become popular with housewives. In animal fibre technology, fibres of newly developed strains of sheep were characterised and blends of wool with ramie and polyster fibres were developed which were found suitable for suiting fabrics and blankets.

In order to enhance the livestock production and productivity, extensive surveys of indigenous breeds of livestock in their home tracts for description, evaluation and conservation would be conducted. Studies for identification of nonconventional feed resources and improvement of nutrition value of existing feed resources especially crop residues would be continued.

FISHERIES INSTITUTES OF ICAR

ICAR has established eight different resource specific fisheries institutes for developing technologies for exploitation of various resources from freshwater, brackish water, coldwater, coastal and marine eco-systems and for fishing and fish processing. A large number of commercially important fish species have been brought under aquaculture practices through detailed studies on their biology, behaviour and physiology. By adopting the management strategies developed through detailed ecological studies of small reservoirs, a record fish production of 220 kg per hectare per year has been achieved from a small reservoir. Development of scientific concept of induced maturation and improved feed combinations, backyard hatcheries, water management and farm engineering have enhanced the productivity of brackishwater prawn culture systems to 4,000 kg per hectare per year.

Research in the applied fields of gonadal sex manipulation, cryopreservation of sperms, potent hybrids and preservation and maintenance of pure livestocks is leading to fast-growing and high-yielding fish varieties. Stock assessment of multi-species resources and population dynamics of commercially important fish provided the base for a sound marine fishery industry. Vessel-based investigations have led to the location of fresh potentials in the EEZ for increasing fish production by extending exploitation through increased deep-sea fishing fleet. Mariculture technologies developed for green mussel, pearl and edible oyster, clams and also seaweed are providing additional potential for economic activities of the coastal population.

Designing and modification of various categories of trawl nets and fishing craft have improved fishing efficiency of artisannal and industrial sec-

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tors. Technologies for new and value-added products from unconventional fish species, chitin and chitosan from shell waste and prawn/fish flavours have been commercialised.

SOILS AGRONOMY AND AGROFORESTRY

RESOURCE INVENTORY

To generate knowledge of the extent and distribution of different soils for planning rational land use, National Bureau of Soil Survey and Land Use Planning (NBSS and LUP) and state soil survey units have taken up Soil Map of India Project. The soil resources and land-use maps of West Bengal, Haryana, Pondicherry, Punjab, Bihar, Orissa, Tamil Nadu and Gujarat have been prepared in 1:250,000 scale and released for users and planners. A training course is conducted by the Bureau to train state and agricultural university officials in the areas of soil survey, soil correlation and land-use planning.

CROPPING SYSTEMS

Intensive and high-yielding cropping systems suitable for irrigated areas and involving major crops have been identified for different agroecological zones. These systems are capable of producing over 10 tonnes of grain per hectare. Cropping systems for rainfed and problem areas such as waste land and diara land, etc. have also been evolved.

SOIL MANAGEMENT

Soil management research deals with identification of physico-chemical constraints limiting crop/biomass production and generating technologies for arresting erosion and other land-degradation processes and restoring and improving productivity by overcoming the soil-related constraints. Technologies have been generated to control soil erosion from different soils and agro-ecological regions by using biological and mechanical measures. Attempts have also been made to stabilize the areas prone to landslides and restore and revegetate the degraded areas. Alternate permanent agricultural systems have been developed to wean away the farmers from shifting cultivation (*jhumming*) in the north-east region. Technologies are available for arresting the sand movement in the desert areas by planting shelter belts and stabilizing the shifting sand dunes with the help of vegetation. Improving productivity of the sandy soil through arid horticulture and introduction of multipurpose tree species and grasses have been highly remunerative to farmers. The Central Soil and Water Conservation Research and Training Institute (CS and WCR and TI), Dehradun runs a five and a half month training course on soil conservation and watershed planning for state officials.

NUTRIENT MANAGEMENT

Improvement in the productivity of the soil can be brought about by the use of plant nutrients through chemical and biological sources. An integrated use of both helps in improving the production and maintain the productivity

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over long periods. Soil testing coupled with the conjunctive use of organic manures, green manuring, biofertilizers and chemical fertilizers improves the efficiency of the chemical fertilizers. The use of micro-nutrients has helped to increase the production in specific nutrient-deficient situations and it maintains the soil health.

WATER MANAGEMENT

Water, if not managed properly, can turn a good fertile land into a waste land. Water management programmes aim at developing technologies for efficient use of available water with minimum degradation of soil. The methods and frequency of water application have been worked out for major cropping systems to increase the water-use efficiency and improve the productivity on the one hand and saving large quantities of water on the other.

AGRICULTURAL ENGINEERING

The contribution of research in the field of agricultural engineering since independence can be gauged from the fact that India is presently self sufficient in production of improved farm machinery used by the farmers. The number of tractors is estimated to have exceeded 12 lakh with yearly augmentation by 1,51,000. More than 120 lakh irrigation pumps are in use with seven lakh pumpsets being added every year. Improved irrigation systems like sprinkler and drip have proved their commercial viability. Farmers are also practising *in situ* moisture-conservation techniques and reclamation of waste lands. Punjab and Haryana have introduced 100 per cent power threshers for threshing of wheat. About 30 per cent of wheat and paddy crop in these states is harvested by combine harvestor.

All this has been possible because of the sustained research and extension work being carried out by the ICAR's Central Institute of Agricultural Engineering, Bhopal, agricultural universities under ICAR research system and commercial production of machines undertaken by Indian farm industries. Post harvest technology development work has been undertaken by such institutes as Cotton Technological Research Laboratory, Bombay; Jute Technological Research Laboratory, Calcutta; Indian Lac Research Institute, Ranchi; Central Institute of Post Harvest Engineering and Technology, Ludhiana; Water Technology Centre of the IARI at New Delhi; Indian Institute of Sugarcane Research at Lucknow, besides by almost all the ICAR national research institutes which have agricultural engineering sections.

Improvement in local sowing devices like dufan, enatigoru, FESPO plough, etc. were made to help the farmers to cover more area and use seeds and fertilizer effectively. Animal drawn seed cum fertilizer applicators are being promoted which improve the efficiency of inputs to the extent of 5 to 30 per cent. The other notable achievements include tractor drawn hill seeder for sowing up-land paddy, serrated sickle, self propelled reaper harvestor for cereals, soyabean and safflower harvesting, multicrop threshers for cereals, pulses and oil seeds threshing. The post harvest losses in cereals account for upto 10 per cent and in fruits and vegetables upto

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30-40 per cent. The agro-processing located in urban areas not only increase the production cost through material handling but also deprive the farmers of their due share of returns. Rice milling, *dal* milling, oil extraction, fruit and vegetable processing and packaging are major post harvest activities being promoted. Technology of soyabean-based products such as Tofu (*Paneer*) milk biscuits, extruded products, *papad*, etc. has been developed and is being promoted and is suitable for rural level industries.

Lac based formulation like varnish having high thermal resistance and good anti-tracking properties, primer paints having anti corrosion nature, rebulac adhesive, aleuric acid and edible grade lac dye have great export potential developed by ILRI, Ranchi. Fibres separated from pineapple leaves have great commercial potential to be utilized in textiles. Commercial viability have also been established utilising jute fibres for making blankets, non-woven carpets, decoratives and in geo-textile uses. Wastes from cotton, jute and *mesta* have been utilized and converted into particle board, packaging boxes and paper.

AGRICULTURAL EDUCATION

A major growth of agricultural education in the country took place with the establishment of the first agricultural university, namely Govind Ballabh Pant University of Agriculture and Technology at Pantnagar in 1960 in Uttar Pradesh. At present there are 27 state agricultural universities including one horticulture forestry and one veterinary and animal science university in the country covering almost all the major states. A separate central agricultural university is being set up with seven specialized colleges in each of the constituent north-eastern hill states under this university.

Under the SAU's system, there are 60 agricultural colleges, 30 veterinary colleges, 16 agricultural engineering colleges, 18 home science colleges, nine fisheries colleges, eight dairy technology colleges, 13 colleges of forestry, eight colleges of horticulture and one college each in the field of sericulture and food science and technology. At present, the admission capacity at the under-graduate and post-graduate levels are 9,715 and 4,500 respectively, excluding the capacity of admission in the colleges of central university. The admission capacity at under-graduate and Post-graduate levels in different faculties is as below:

Subject	Admission capacity UG	PG
1. Agriculture	5,020	3,000
2. Veterinary	2,000	1,000
3. Agricultural Engineering	725	200
4. Home Science	890	175
5. Fisheries Science	190	100
6. Dairy Technology	240	100
7. Forestry	267	12
8. Horticulture	240	—
9. Sericulture	30	—
10. Food Science and Technology	25	—

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TRANSFER OF TECHNOLOGY

While the main responsibility of conducting extension work in the country is with the state departments of agriculture, ICAR performs the extension education functions and deals with the first-line extension projects and activities. These activities aim at demonstrating the latest technological advances made by scientists to farmers and extension workers. It also serves as a feedback mechanism for the research system. There are four first-line transfer of technology projects sponsored by the ICAR namely: National Demonstrations Project (NDP), Operational Research Projects (ORPs), *Krishi Vigyan Kendras* (KVKs) Trainer's Training Centres (TTCs) and Lab-to-Land Programme (LLP). These projects are implemented through ICAR research institutes, state agricultural universities and selected voluntary organisations.

OPERATIONAL RESEARCH PROJECTS

The Council operates 150 operational research projects/centres in various parts of the country to test the newly developed technologies in a cluster of villages or in a watershed. These ORPs aim at disseminating the proven technology in a subject matter area among farmers covering the whole village or a cluster of villages and concurrently studying constraints which act as barriers to the rapid spread of improved technological know-how.

KRISHI VIGYAN KENDRAS AND TRAINERS'S TRAINING CENTRES

The Krishi Vigyan Kendras are the vocational training institutions designed to prepare practising farmers, farm woven, young farmers, school drop-outs, etc. to become successful farmers and help them increase production on their farms. The principles followed in these training centres are "learning by doing" and "teaching by doing". The Council has also initiated eight trainer's training centres for providing training to the subject-matter specialists of the state departments of agriculture and trainers of the KVKs. At present there are 187 Krishi Vigyan Kendras in the country. ICAR plans to establish one KVK in each district by the end of Eighth Plan.

LAB-TO-LAND PROGRAMME

Through 104 lab-to-land centres, over 20,000 farm families comprising small and marginal farmers and landless agricultural labourers, mostly from scheduled castes and scheduled tribes and backward communities have been adopted under the project for introduction of low-cost and no-cost agricultural and allied technologies in order to increase the employment and income of the adopted farm families. The programme has been able to create an impact on the target group.

PUBLICATIONS AND INFORMATION

One of the objectives of the Indian Council of Agricultural Research (ICAR) is to act as a clearing house of information not only in regard to research but

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also in regard to agricultural and veterinary matters. The Publications and Information Division publishes nine journals and a range of publications in English and Hindi for the benefit of scientists, policy makers, scholars and the public. The publications in English comprise four research journals, *The Indian Journal of Agricultural Sciences* (monthly), *The Indian Journal of Animal Sciences* (monthly), *The Indian Journal of Fisheries* (quarterly), and the *Indian Journal of Agricultural Engineering* (quarterly), and two semi-technical journals, the *Indian Farming* (monthly) and the *Indian Horticulture* (quarterly). In Hindi, the journals are *Kheti* (monthly), *Phal Phool* (quarterly), and *Krishi Chayanika* (quarterly). In addition to these journals, the Division brings out scientific bulletins, reports, directories and other miscellaneous publications. The science popularization unit releases features to the print and broadcast media.

ICAR also operates an Agricultural Research Information Centre (ARIC) which is an integral part and a constituent unit of the Publications and Information Division. The ARIC is the main source of information on current research projects and brings out directories of agricultural personnel, research workers, research schemes and workshops in agriculture. The ARIC provides selective dissemination of information (SDI) using CD-ROM from International Information System for Agricultural Sciences and Technology (AGRIS) database and has also brought out the Indian National Agricultural Bibliography (1975-84). It is a national input Centre for AGRIS and Current Agricultural Research Information System (CARIS) projects of FAO and focal point for SAARC Agricultural Information Centre (SAIC). ARIC compiles the Indian information about agricultural institutions, agricultural research scientists/technologies and agricultural research projects for CARIS and SAIC directories. Besides these, exhibitions and film shows are organised for disseminating agricultural technologies to the farmers.

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16 Water Resources

WATER is vital for realising full potential of the agriculture sector and country's development. Optimum development and efficient utilisation of our water resources, therefore, assumes great significance. The erstwhile Department of Irrigation was redesignated as Ministry of Water Resources in October 1985 and assigned the nodal role for development, conservation and management of water as a national resource. The National Water Policy was adopted in September 1987. It recommends need for integrated and multi-disciplinary approach to planning, formation and implementation of projects. It also lays down priority areas for planning and operation of systems. Highest priority has been assigned to drinking water followed by irrigation, hydro-power, navigation, industrial and other uses. The policy further recommends that the quality of surface and ground water should be monitored.

In flood management sector, the need for having a Master Plan for flood control and management for each flood-prone basin through sound water-shed management was recognised in the policy and establishment of extensive network for flood forecasting recommended. The policy further recommended that erosion of land by sea or river be minimised by suitable cost-effective measures. The Ministry is responsible for broadly laying down policies and programmes for development and regulation of the country's water resources. Its role essentially covers sectoral planning, coordination, policy guidelines, technical examination, assistance in water resources projects and facilitation of external help and assistance in resolution of disputes as a result of inter-state problems.

GROUND WATER

The total replenishable ground water resources in the country have been provisionally estimated at 45.22 m. ha per year. Of this 6.94 m.ha is for drinking, industrial and other uses leaving 38.28 m.ha for irrigation. The stage of ground water development is about 30 per cent of the utilisable ground water resource. Basin- wise break-up of the potential is given in table 16.1.

IRRIGATION DEVELOPMENT

Expansion of irrigation alongwith consolidation of created systems have been the main strategies for increasing foodgrain production. Irrigation support

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TABLE 16.1 BASIN WISE GROUND WATER RESOURCE POTENTIAL (PRORATA BASIS)

Provisional & Tentative

Basin	Total replenishable ground water resource (m.ha.a/Yr)	Provision for drinking, industrial and & other uses (m.ha.a/Yr)	Utilisable ground water-resource for irrigation m.ha.a/Yr)	Net Draft (m. ha.a/Yr)	Balance gound water potential available for exploitation (m.ha.a/Yr)	Level of gound water Development (per cent)
Indus	2.5543	0.3870	2.1673	1.7540	0.4133	80.93
Ganga	17.2265	2.5966	14.6699	4.5937	10.0762	31.31
Kutch Composite & Saurastra Composite	1.3948	0.2515	1,1433	0.4640	0.6793	40.58
Cambai Composite	0.7908	0.1201	0.6707	0.2065	0.4642	30.79
Narmada	1.1890	0.1793	1.0097	0.1586	0.8511	15.71
Tapi	0.8173	0.1439	0.6734	0.1804	0.4930	26.79
Subarnarekha	0.2065	0.0309	0.1756	0.0087	0.1669	4.95
Brahmani with Baitarni	0.5060	0.0759	0.4301	0.0261	0.4040	6.07
Mahanadi	2.1293	0.3195	1.8098	0.0792	1.7306	4.38
North East Composite	2.2788	0.3418	1.9370	0.2673	1.6697	13.00
Godavari	4.6762	0.7342	3.9420	0.6031	3.3389	15.30
Krishna	2.6646	0.4342	2.2303	0.6617	1.5686	29.67
Pennar	0.5047	0.0757	0.4290	0.1380	0.2910	32.17
Madras Composite & South Tamil Nadu Composite	2.0908	0.3138	1.7770	0.8334	0.9436	46.90
Cauvery	1.3598	0.2042	1.1556	0.5270	0.6286	45.60
Western Ghat Composite	1.8289	0.2858	1.5431	0.3085	1.2346	19.99
Brahmaputra	2.7858	0.4179	2.3679	0.0511	2.3168	2.16
Meghna	0.1795	0.0269	0.1526	0.0054	0.1472	3.54
	45.2236	6.9393	38.2843	10.8667	27.4176	28.38

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is provided through major and medium irrigation projects, Command Area Development, tank irrigation and use of ground water. With sustained and systematic development of irrigation, irrigation potential has increased from 22.6 m.ha. during the pre-plan to about 81.2 m.ha. at the end of 1991-92. Against this, the irrigation potential utilisation at the end of 1991-92 is 73.1 m.ha. A target for creation of 2.7 m.ha. of irrigation potential and utilisation of 2.6 m.ha. of irrigation potential was kept during 1992-93. The Plan-wise position of irrigation potential created and utilised under major, medium and minor irrigation is given in table 16.2.

MAJOR AND MEDIUM IRRIGATION PROJECT

Irrigation projects with a Culturable Command Area (CCA) of more than 10,000 hectares are classified as major projects and those with a CCA of more than 2,000 hectares and upto 10,000 hectares as medium projects. The expenditure incurred on major and medium projects and the irrigation potential created during the various plan periods are given in table 16.3.

TABLE 16.2 IRRIGATION POTENTIAL

(M.ha.)

Plan	Potential			Utilisation		
	Maj. Med.	Minor	Total	Maj. Med.	Minor	Total
At the end of						
Pre Plan upto 1951	9.7	12.9	22.6	9.7	12.9	22.6
First (1951-56)	12.2	14.0	26.2	11.0	14.0	25.0
Second (1956-61)	14.3	14.7	29.0	13.0	14.7	27.7
Third (1961-66)	16.6	17.0	33.6	15.2	17.0	32.2
Annual Plans (1966-69)	18.1	19.0	37.1	16.8	19.0	35.8
Fourth (1969-74)	20.7	23.4	44.1	18.7	23.4	42.1
Fifth (1974-78)	24.7	27.3	52.0	21.2	27.3	48.5
Annual Plans (1978-80)	26.6	30.0	56.6	22.6	30.0	52.6
Sixth (1980-85)	27.7[1]	37.5	65.2	23.6[1]	35.2[1]	58.8
Seventh (1985-90)	29.9	46.6	76.5	25.5[1]	43.1	68.6
During 1990-91	0.4	1.8	2.2	0.5	1.7	2.2
During 1991-92(Ant)	0.6	1.9	2.5	0.6	1.7	2.3
At the end of 1991-92	30.9	50.3	81.2	26.6	46.5	73.1
Targets for 1992-93	0.7	2.0	2.7	0.7	1.9	2.6
Targets for Eighth Plan	5.1	10.7	15.8	4.3	9.4	13.7

I Reappraised figures.

TABLE 16.3 MAJOR IRRIGATION PROJECTS

Plan period	Outlay/Expenditure (Rs in crore)	Potential created (million ha.) During the commulative period	
Pre-Plan period	Not available	9.70 (Revised)	9.70
First Plan (1951-56)	376	2.50	12.20
Second Plan (1956-61)	380	2.14	14.34

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Plan period	Outlay/Expenditure (Rs in crore)	Potential created (million ha.) During the commulative period	
Third Plan (1961-66)	576	2.23	16.57
Annual Plan (1966-69)	430	1.53	18.10
Fourth Plan (1969-74)	1, 242	2.61	20.71
Fifth Plan (1974-78)	2, 516	4.01	24.72
Annual Plan (1978-80)	2, 079	1.90	26.62
Sixth Plan (1980-85)	7, 369	2.14 (Revised)	27.70 (Revised)
Seventh Plan (1985-90)	11, 107	2.22	30.98
Annual Plan (1990-91)	2, 565	0.44	31.42
Annual Plan (1991-92) (Anticipated)	2, 754	0.62	32.04
Annual Plan (1992-93) (Target)	3, 142	0.70	32.74
Eighth Plan (1992-97) (Target)	22,415	5.09	36.07

At the start of Eighth Plan, there were 157 major, 228 medium and 100 extension/renovation/modernisation schemes ongoing, with a total spillover cost of about Rs 38, 620 crore. The Central Water Commission is monitoring 53 selected multipurpose irrigation projects in order to identify the bottlenecks, suggest remedial measures and to ensure their completion within the scheduled time. These projects include 48 major and five modernisation schemes.

COMMAND AREA DEVELOPMENT PROGRAMME

The Command Area Development (CAD) programme was initiated in 1974-75 as a Centrally sponsored scheme with the objective of improving the utilisation of created irrigation potential. The programme broadly covers on-farm development works like construction of field channels, field drains land levelling and shapping roads, consolidation of holdings realignment of field boundaries and introduction of *warabandi* for rotational supply for irrigation water in order to ensure equitable and assured supply to each and every farm holding. Conjunctive use of surface and ground water, selection and introduction of suitable cropping patterns and modernisation, maintenance and efficient operation of the irrigation system upto outlet of one cusec capacity also come under the ambit of the programme. In addition, the programme includes certain software components such as carrying out of adaptive trials, demonstrations and training of field functionaries and staff/officers associated with the programme.

At the inception of the programme in 1974-75 there were 60 irrigation projects spread over 13 states with the culturable command area of about 150 lakh hectares. At present, the programme covers 164 projects with the culturable command area of 209.4 lakh hectares spread over 20 states and two union territories and is being executed through 54 command area development authorities. Financial assistance provided by Central and state

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governments for the CAD programme upto March 1992 works out to around Rs 3, 170 crore out of which Central assistance was Rs 1, 081 crore. The total physical achievements in respect of the major activities under the programme are: (i) 12.19 m.ha. under construction of field channels; (ii) 5.12 m.ha. coverage under *warabandi* and (iii) two m.ha. under land levelling and shaping. The thrust of the programme during Eighth Plan would be ensuring greater reliability of irrigation water supply, better water management practices and intensification of software activities such as farmers participation in irrigation water management and training of farmers.

FLOOD MANAGEMENT

Flood management programme has been in existence since 1954. Of the country's total geographical area of about 328 m.ha. roughly about 1/8th has been assessed as flood prone. Out of this about 32 m.ha. has been estimated to be protectable.

The country on the whole experienced good and well distributed rainfall during 1992-93. Floods of medium to high intensity in Assam , Bihar and Uttar Pradesh and heavy rains in Andhra Pradesh, Jammu and Kashmir, Kerala and Tamil Nadu have caused extensive damages. According to available reports an area of about 1.24 m.ha. experienced floods during the 1992 monsoons affecting a population of about 8.9 million. Crops in about 0.84 m.ha. area worth about Rs 43.92 crore were reported to have been damaged. In all, nearly 376 human lives and 5,047 cattleheads were reported to have been lost. The total value of damage as tentatively assessed by states concerned and reported upto end of November 1992 was about 56.38 crore.

FORECASTING

During the 1992 flood season, 4,607 flood forecasts including 1,138 inflow forecasts for 25 reservoirs were issued by Central Water Commission through its network of 157 flood forecasting stations spread over 62 river basins covering most of the inter-state rivers of the country. About 96.4 per cent of the forecasts were within the prescribed limit of accuracy. The flood forecasts were found extremely useful by the states for taking timely action to prevent loss of life and property.

Flood forecasting techniques are being constantly reviewed, updated and modernised to make the flood forecasts more accurate, effective and timely. The VHF telemetry system installed in upper Yamuna basin as pilot project phase-I under UNDP assisted programme also remained operational. The system had encouraging performance with satellite, INSAT IB whose life expired in 1990. The satellite communication technology based Data Collection Platform installed and commissioned at 15 locations in upper Yamuna basin as pilot project phase-II could not be switched over to INSAT-IB. However, recently INSAT-II has been successfully launched

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and efforts are now being made to make the link operational. The use of computerised mathematical models for forecast formulation have been widely introduced with the help of National Informatics Centre. Five computerised hydrological models *viz.*, SSARR : HECIF : NIC : NAM-SYSTEM 11 (MIKE 11) AND (CWC FFI) have been installed and calibrated for daily use. A new model *viz.*, Past Event Matching (PEM) has been developed in CWC and was used for testing based on past recorded events for 1991 and 1992 flood season.

Under Phase-III of the CWC-DHI cooperation project MIKE-11, a more versatile and broad based model, was installed at New Delhi, Hyderabad and Maithon. At present it is operational for Yamuna, Godavari and Damodar river systems. The Project has since been successfully concluded on 31 December 1992. A computerised 'Flood Forecasting and Warning Performance Appraisal System' (FFWNPAS) has been used operationally for monitoring of flood forecasting performance in 1991 and 1992.

INTER STATE WATER DISPUTES

The dispute regarding sharing of Yamuna waters amongst the basin states has been going on for a long time. To resolve this issue, in continuation of earlier efforts, inter-state meetings were convened by the Minister of Water Resources on 19 July and 17 December 1992. Broad consensus of approach has been arrived at on all the related issues and it is likely that the issues will be finalised shortly. A Committee under the Chairmanship of Member (Water Planning), CWC has been set up to recommend the composition and functions of the proposed Upper Yamuna River Board for the coordinated development and management of Yamuna waters. Irrigation secretaries of all the co-basin states and the National Capital Territory of Delhi are its members.

Ravi and Beas Waters Tribunal set up on 2 April 1986 submitted its report to the Central Government on 30 January 1987. In August 1987 a further reference was made to the Tribunal comprising a *suo-moto* reference by Central Government and reference received from Governments of Punjab, Haryana and Rajasthan seeking explanations and guidance on certain points in the report. The report of the Tribunal is awaited. In the meantime, Minister of Water Resources convened inter-state meetings with the Chief Ministers of Punjab, Haryana and Rajasthan on 29-30 July and 6 August 1992 when a number of inter-state issues were discussed. These are to be discussed further so as to reach an agreement.

Pre-construction activities of Tipaimukh Dam project has been taken up during current financial year. Efforts are continued to bring an agreement between Manipur, Mizoram and Assam for the construction of the dam to derive the envisaged benefits at the earliest

INTERNATIONAL AGREEMENTS

INDUS WATERS TREATY

India and Pakistan signed Indus Waters Treaty on 19 September 1960 fixing

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and delimiting the rights and obligations of the two countries with regard to the use of the waters of the Indus river system. It came into force from 1 April 1960. A permanent Indus Commission representing both the governments has been set up to establish cooperative arrangements for implementation of the treaty. Efforts to amicably resolve the Tubul Navigation project issue through bilateral talks are continuing.

INDO-BANGLADESH JOINT RIVERS COMMISSION

The Indo-Bangladesh Joint Rivers Commission, set up in July 1972 ensures most effective joint efforts for maximising the benefits from common river system to both the countries and formulates measures for mutual benefit in the fields of flood forecasting and warning, flood control and river development. It has held 31 meetings so far. During the summit meeting between the Prime Ministers of India and Bangladesh in May 1992, the subject of sharing of river waters was discussed. They agreed that an equitable, long-term and comprehensive arrangement for sharing the flows of Ganga, Tista and other major rivers evolved through mutual discussions would serve the best interest of the people of the two countries.

Pursuant to the directives of the Prime Ministers, Shri Vidya Charan Shukla, Minister for Water Resources (India) visited Bangladesh from 25 to 27 August 1992 for ministerial level talks, wherein a Joint Committee of Experts (JCE) headed by Secretaries of the two Governments was formed. The first meeting of the Indo-Bangladesh Joint Committee of Experts was held at New Delhi from 19 to 20 November 1992. The second meeting was held on 30-31 March 1993. The JCE held indepth discussions to work for an equitable, long-term and comprehensive arrangement for sharing the flows of Ganga, Tista and other major rivers. The talks remained inconclusive.

INDO-BHUTAN PROJECTS

The cooperatioon with Royal Government of Bhutan is being continued in respect of the works for hydro-power development and establishment of hydro-meteorological and flood forecasting network on rivers common to India and Bhutan. The investigation and preparation of detailed project reports for Chukha Stage-II and III are being done by M/S WAPCOS in pursuance to the MOU between the two Governments. Survey and investigation works for preparation of detailed project report for Sankosh multipurpose project has been taken following an agreement reached between India and Bhutan in January 1993.

INDO-NEPAL COOPERATION

Talks for Indo-Nepal cooperation in water resources development began after Independence. According to agreements reached India constructed Gandak and Kosi projects during sixties, which were followed by Trishuli and Devighat hydro-electric projects. Systematic talks at Secretary level are being held since 1980. An Indo-Nepal Sub-Commission consisting of officials (headed by Secretaries of Water Resources on either side) was set up in August

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1988. The Sub-Commission has so far held two meetings, in December 1988 and in April 1991. During the visit of the Prime Minister of India to Nepal in October 1992, a time frame was agreed upon for investigation and preparation of project reports on the Karnali, Pancheshwar, Sapta Koshi, Burhi-Gandaki, Kamla and Bagmati projects as also on the expeditious completion of the scheme of setting up of flood forecasting and warning system in Nepal, construction of flood protection embankments at border on common rivers and on power exchange. Work is progressing as per this agreement.

EXTERNAL ASSISTANCE

The major source of external assistance for the irrigation sector has been the World Bank. At present 14 on-going projects are receiving US $ 2,312.09 million assistance. Out of these, Haryana Irrigation-II Project and Sardar Sarovar Water Delivery and Drainage Project closed in March and July 1992 respectively.

According to the draft Staff Appraisal Report of the World Bank, the Narmada Basin Development Project estimated to cost US $ 101.2 million would consist of (a) catchment treatment in rainfed areas covering about 150,000 ha. of high priority sub-watersheds; (b) re-afforestation on about 60,000 ha. of degraded forest land; (c) fisheries development in the reservoir, estuary and command area; (d) support for resettlement in infrastructure in the form of a village development fund; (e) development of four wildlife sanctuaries in Gujarat; and (f) environmental studies. The contribution of IDA is estimated to be US $ 89.22 million.

Under the Indo-US bilateral assistance programme projects receiving assistance to the tune of US $ 201 million are: (i) MP and Maharashtra minor irrigations projects; (ii) Water Resources Management and Training Project and (iii) Hill Area Land and Water Development Project. These projects have closed in 1992.

The USAID has sent proposals for additional funding of US $ 1.4 million through Irrigation Support Project for Asia and Near-East (ISPAN) (direct funding) for carrying out: (a) collaborative science and technology exchange of scientists to promote US-India co-operation and linkages for water resources planning and management; (b) promotion of farmers' organisations to assume responsibility for irrigation management and (c) studies on possible irrigation administration innovations to improve irrigation management. These proposals have been approved and are in operation.

Projects taken up during the Fourth Country Programme (CP-IV)-April 1990-March 1995 are; (a) Central Soil and Materials Research Station-Upgradation of geomechanics testing facilities; (b) Central Water and Power Research Station-automated operation of irrigation canal system; mathematical modelling centre for fluvial and ocean hydromechanics and (c) National Institute of Hydrology—developing capabilities for hydrological studies. The project proposal for setting-up of a National Training Institute for Ground Water Studies with UNDP assistance is also under active consideration.

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Projects under implementation with Overseas Economic Cooperation Fund (OECF) assistance are; (i) Upper Indravati Irrigation Project; (ii) Upper Kolab Irrigation Project and (iii) engineering services for Indira Gandhi Nahar Project.

The UP Tubewells Project is under implementation with Dutch Assistance while the Andhra Pradesh Minor Irrigation Project; Kerala Community Irrigation Project, Andhra Pradesh Surface and Lift Irrigation Project, Gujarat Salinity Ingress Prevention Schemes; Tungabhadra Pilot Project Phase-II and development of surface and water storage structures in Bundelkand are in the pipeline. The Rajasthan Minor Irrigation Project is under implementation with German assistance.

Under the Indo-French Financial Cooperation Programme in water sector an assistance of FF 49 million is likely to be utilised. The agreements for the project Basin Management; Dynamic Regulation of Irrigation System on Mazagaon Irrigation Project, Maharashtra; Mapping and Control of Water Distribution System in Delhi; Recycling of Waste Water in Ahmadabad Area and Nitrification and Ozone Treatment Plant at Okhla in Delhi and Installation of Fusegates at Wanakbori Reservoir in Gujarat have already been finalised.

CENTRAL ORGANISATIONS

Central organisations under the Ministry of Water Resources engaged in the development of water resources are the Central Water Commission, Central Soil and Materials Research Station, New Delhi, and six subordinate offices spread over the country.

CENTRAL WATER COMMISSION

Set up in 1945, the Central Water Commission (CWC) is the national apex organisation in the field of water resources development. It shoulders the general responsibility of initiating, coordinating and furthering, in consultation with state governments concerned, schemes for the control, conservation and utilisation of water resources, for purposes of flood management, irrigation, navigation and water power generation throughout the country. The Commission, if so required, also undertakes the construction and execution of any such schemes. Over the years, the Commission has developed considerable technological knowhow in planning and investigation, and expertise in plan formulation, appraisal, design of water resources development schemes, project monitoring and management and is sharing this knowledge with other developing nations.

The Commission is headed by a Chairman and has four members heading the four technical wings, namely, the designs and research, planning and progress, water planning and the river management. Besides it has separate administration, coordination and training wing, headed by a Chief Engineer functioning under the direct control of the Chairman.

During 1992-93, consultancy in the field of designs was provided for 127 projects including two projects in Bhutan, one in Nepal and two projects

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under Indo-Nepal cooperation which are either under planning or construction stage. The design consultancy provided also included eight World Bank aided projects namely:- Narmada Sagar Complex, including Ompareshwar and Maheswar Projects (Madhya Pradesh); Hasedeo Bango Project (Madhya Pradesh); Mahi Dam Project (Madhya Pradesh); Nathpa Jhakri Hydel Project (Himachal Pradesh); Lower Periyar Project, (Kerala); Sardar Sarovar Project (Gujarat); Upper Indravati Project (Orissa); and Subarnarekha Project (Bihar). During the year 3,158 equivalent drawings and 292 designs memoranda and technical memoranda were issued upto September 1992.

Agreements for dam safety assurance and Rehabilitation Project were signed between the World Bank and the Government of India including the participating states of Madhya Pradesh, Orissa, Rajasthan and Tamil Nadu for obtaining a credit of US $ 130 million and loan of US $ 23 million in June 1991. The Central component of this project amounts to Rs 4.97 crore for which administrative approval and expenditure sanction was accorded by the Ministry of Water Resources during February 1992.

Dam Safety Review Panels have been formed for all the four state of Madhya Pradesh, Orissa, Rajasthan and Tamil Nadu and the panels have already conducted two meetings for all the 33 dams identified for rehabilitation in these states. A Central team from the Dam Safety Organisation have visited one dam in each state and have conducted a model Phase -I inspection for one large dam in the state which is to be followed by the state in respect of other dams under their jurisdiction.

Under the United Nations Development Programme Project titled, Updating design, instrumentation and surveillance technology for dams and other hydraulic structures taken up in March 1987 the remote operated underwater vehicle had been used for scanning the upstream face of six major dams so far. A diving gear equipment procured under this project has been tested and is ready for use for underwater scanning of dams upto a depth of 50 metres.

CENTRAL SOIL AND MATERIALS RESEARCH STATION

The Central Soil and Materials Research Station (CSMRS), New Delhi, is a premier organisation in the country, dealing with field exploration, laboratory investigations and basic and applied research in the field of geomechanics and construction of river valley projects. The Research Station primarily functions as adviser and consultant to various departments of Government of India and state governments. The activities of the Research Station cover soil mechanics; soil dynamic; rockfill technology; rock mechanics; foundation engineering; concrete technology; construction material technology; instrumentation; geophysical investigation; chemical analysis and geosynthetics.

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SUBORDINATE ORGANISATIONS

CENTRAL WATER AND POWER RESEARCH STATION (CWPRS)

Central Water and Power Research Station is the premier national institute offering comprehensive support to a variety of projects in the fields of water and energy resource development and water-borne transport. Today, the research station is increasingly called upon to advise on projects in fields as diverse as river training and flood control, design of stable channels, irrigation and hydro electric structures, harbours, waterways, and coastal protection structural design, foundation engineering, pumps and turbines, ship hydro dynamics, earth sciences, reservoir competence, cooling water intakes, cooling pond efficiency and discharge of industrial effluents.

CENTRAL GROUND WATER BOARD

The Central Ground Water Board is vested with the responsibility of carrying out nation-wide survey and assessment of India's ground water resources and laying broad policy guidelines for their development and management including conservation, augmentation and protection. It has been playing a vital role in generating valuable scientific and technical data through regional hydrogeological surveys, ground water exploration, resource and water quality monitoring, research and development, in-service training of its own as well as other Central and state government officers and assisting the states in preparation of ground water development and management schemes.

The Board is headed by the Chairman and has two main wings, namely hydrogeological and engineering headed by Chief Hydrogelogist and Chief Engineer respectively. Besides them the Board has a number of members from the Rural Electrification Corporation, National Institute of Hydrology, Central Public Health Engineering Organisation, National Geophysical Research Institute, Minor Irrigation, Internal Finance and Administration wings of the Ministry of Water Resources.

FARAKKA BARRAGE PROJECT

Farakka Barrage Project is a subordinate organisation of the Ministry headed by a General Manager assisted by two engineers. It is designed to subserve the need of preservation and maintenance of the Calcutta Port by improving the regime and navigability of the Bhagirathi-Hooghly river system. The river Bhagirathi, the feeder canal and navigation lock at Farakka form part of the Haldia-Allahabad inland waterway. The principal components of the project are: (a) a 2,240 metre long barrage across the Ganga with rail-cum-road bridge, necessary river training works and a head regulator on the right side; (b) a 213 metre long barrage across the river Bhagirathi at Jangipur; (c) feeder canal of 1,133 cusec (40,000 cusec) carrying capacity and 38.38 km long, take off from head regulator on the right of the Farakka Barrage and (d) navigation works such as locks, lock channels shelter basins, navigation lights and other infrastructures. All the principal works connected with the two barrages and feeder canal have been completed. The Farakka Barrage, with rail-cum-

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road bridge over it has provided a communication link between Assam, West Bengal and rest of India, which is vital for the north eastern region. The navigation lock at Jangipur has been completed substantially, except for providing some navigation aids and equipment while the navigation lock at Farakka has been completed and dedicated to the nation on 16 November 1987.

During 1992-93, the following works have been completed (i) civil works of two regulators across the Pagla and Bansloi basin and the fabrication and erection of gates and gantry for hoist system with a garaging span for both the regulators; (ii) Kalindri navigation lock; (iii) fabrication, erection of gates and hoists and a gantry crane for Kalindri regulator; (iv) about 76 per cent of the work on a bridge across Feeder Canal at RD 29.50; (v) the work of manufacture and fabrication of gates and gate parts for the Kalindri lock and installation have been taken up in March 1991; (vi) 11 gates of head regulator in feeder canal have been taken up for repair/rectification as per recommendation of Technical Advisory Committee. The work is yet to start at site by NPCC Ltd.

The following protection works are in progress: (i) On the protection works at the right bank of river Ganga downstream of Farakka Barrage costing Rs 7.28 crore, an amount of Rs 7.51 crore has been spent and bank protection works for a length of 3.55 km have been completed; (ii) The protection works against bank erosion on right bank of river Ganga along left *Afflux Bundh* of Jangipur Barrage covering a length of 2.96 km and costing Rs 5.84 crore have been completed. Bank protection works for a length of 0.25 km taken up during 1992-93 is expected to be completed before the floods of 1993; (iii) Until floods of 1990, the Farakka Barrage Project has spent an amount of Rs 79.22 lakh for construction of marginal embankments for the flood protection of the area between *Afflux Bundh* and the river Ganga near Simultala just u/s left bank of Farakka Barrage.

After the floods of 1990, the construction of a tenth retired marginal embankment alongside the river bank at Simultala to prevent inundation, was taken up by the Government of West Bengal and executed partially as a 'DEPOSIT WORK' of Farrkka Barrage Project. The revised estimated cost submitted for the scheme by the Government of West Bengal is Rs 43.90 lakh and Farakka Barrage Project has deposited Rs 33 lakh (approx.) so far to the Government of West Bengal.

GANGA FLOOD CONTROL COMMISSION

Ganga Flood Control Commission set up in April 1972 serves as the executive limb of the Ganga Flood Control Board and is primarily concerned with the preparation of comprehensive plan for flood control in the Ganga basin and arranging its implementation in a coordinated manner through the states in the basin. The Commission is responsible for technical scrutiny and examination of flood control, drainage, anti water-logging and anti-erosion schemes estimated to cost Rs one crore each or more in the basin.

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BANSAGAR CONTROL BOARD

In pursuance of an inter-state agreement among Madhya Pradesh, Uttar Pradesh and Bihar, the Bansagar Control Board was constituted in January 1976, with head-quarters at Rewa, Madhya Pradesh by the Ministry of Water Resources for efficient, economical and early execution of Bansagar Dam and connected works on the Sone river (excluding canal and power systems which will be carried out by the respective states.)

SARDAR SAROVAR CONSTRUCTION ADVISORY COMMITTEE

Sardar Sarovar Construction Advisory Committee (SSCAC) located at Vadodara was set up in 1980 by the Centre in accordance with the directions of the Narmada Water Dispute Tribunal with a view to ensuring efficient, economical and early execution of Unit-I (dam and appurtenant works) and Unit-III (Power complex) of the project Secretary, Ministry of Water Resources is the Chairman of the Committee while officers of the concerned departments of the Government of India, the four party states and representatives of Narmada Control Authority are its members.

STATUTORY BODIES

Four statutory bodies are functioning under the Ministry of Water Resources. These are : Narmada Control Authority, Brahmaputra Board, Betwa River Board and Tungabhadra Board.

NARMADA CONTROL AUTHORITY

Narmada Control Authority (NCA) is an inter-state high level administrative authority set up in 1980 in pursuance of the final orders of the Narmada Water Disputes Tribunal (NWDT) for the purpose of securing compliance with and implementation of the decision of the Tribunal by the four party states, namely Gujarat, Madhya Pradesh, Maharashtra and Rajasthan.

BRAHMAPUTRA BOARD

The Brahmaputra Board, with headquarters at Guwahati, was established in December 1981, under the Brahmaputra Board Act, 1980, for the planning and implementation of measures for the control of floods and bank erosion in the Brahmaputra valley and for matters connected therewith.

BETWA RIVER BOARD

Rajghat Dam Project on the Betwa, a tributary of the Yamuna, is an inter-state project of Madhya Pradesh and Uttar Pradesh. In accordance with the agreement between the two states in 1973, Betwa River Board was constituted under the Betwa River Board Act, 1976, for early execution of Rajghat Dam Project. Phase-I of the Project was completed before the monsoon of 1992 enabling partial storage and irrigation of some areas of UP and MP during 1992-93.

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TUNGABHADRA BOARD

The Tungabhadra Board was constituted by the President of India for completion of the Tungabhadra Project and for its operation and maintenance. The Board is incharge of the common portion of the Tungabhadra Project. The Krishna Water Disputes Tribunal has made specific provision in the Award for the use of Tungabhadra waters by the states of Karnataka and Andhra Pradesh and the responsibility for carrying it out has been entrusted to the Tungabhadra Board. The Board is also regulating the water for irrigation, hydro-power generation and other uses on the right bank. At present, the Board consists of a Chairman and a Finance Member from Government of India and members representing Andhra Pradesh and Karnataka. The funds of the Board are provided by the state governments.

REGISTERED SOCIETIES

NATIONAL INSTITUTE OF HYDROLOGY

The National Institute of Hydrology (NIH), Roorkee, an autonomous society was set up in December 1978, to develop comprehensive methodologies for solving various basic and applied research problems in all phases of hydrological cycle and to transfer developed technology to various states and Central organisations. The Institute has established its regional centres to deal with specific regional problems. The Union Minister of Water Resources is its President and the Minister of Irrigation of different states, secretaries to Government of India and specialists in water resources are the members. The Secretary, Union Ministry of Water Resources is the Chairman of the Governing Body of the Institute.

NATIONAL WATER DEVELOPMENT AGENCY

Established in July 1982, the National Water Development Agency (NWDA), aims to promote scientific development for optimum utilisation of water resources in the country and for preparing feasibility reports for inter-basin transfer of water from surplus to deficit areas as envisaged in the national perspective for water resources development. The Agency is headed by a Director General. The Society with the Union Minister of Water Resources as the President, meets at least once in a year and the Governing Body of National Water Development Agency, with the Secretary, Ministry of Water Resources as its Chairman meets at least twice in a year. The actual expenditure on the studies taken up by the Agency upto the end of Seventh Plan was Rs 15.58 crore. The actual expenditure during 1990-91 and 1991-92 were Rs 2.78 crore and Rs 3.54 crore respectively. The approved revised budget allocation for the year 1992-93 is Rs 4.50 crore.

PUBLIC SECTOR UNDERTAKINGS

WATER AND POWER CONSULTANCY SERVICES (INDIA) LIMITED

Water and Power Consultancy Services (India) Limited, (WAPCOS) a Government of India undertaking set up in 1969, provides comprehensive inter-disciplinary coverage of all facets of consultancy. The company has

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extensive experience of working in tropical, semi-arid and arid zones. These engineering and consultancy services are tailored to the requirements of the clients keeping in view of the climatic, topographic, socio-economic, and environmental conditions prevailing in the area.

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

The National Projects Construction Corporation Limited, which was earlier under the Department of Power, was brought under the administrative control of the Ministry of Water Resources in September 1989. The Corporation was set up in January 1957, as a joint venture of the Central and state governments to undertake execution of heavy construction engineering works of all types. Over the years, it has evolved into a professional organisation functioning on commercial lines and has successfully completed a number of projects of national importance.

NATIONAL WATER BOARD

In order to review the progress of implementation of the National Water Policy and report to the National Water Resources Council and initiate effective measures for systematic development of country's water resources, the National Water Board was constituted by the Government in September 1990. The Board held its first meeting in November 1990. As decided in this meeting three sub-committees on (i) Water Information Bill (ii) River Basin Organisation and (iii) National Rehabilitation Policy were set up to draft policy papers. The report of the Sub-Committee on Water Information Bill has since been submitted to the Government. The other two sub-committees have prepared the draft policy papers which are under consideration of the Board. The second meeting of the Board was held on 30 July 1991. The meeting, *inter-alia*, decided to set up two committees for (i) preparation of guidelines for conjunctive use of surface and ground water in irrigated commands and (ii) drawing up guidelines for integrated watershed development including exploitation of ground water in drought prone areas. The third meeting of the Board was held on 20 January 1992 in which the draft Water Information Bill was discussed. Stress was laid on science and technology aspects for effective and economical management of water resources. The fourth meeting of the Board was held on 7 July 1992 in which policy on setting up of river basin organisation, draft National Policy for Resettlement and Rehabilitation of persons affected by reservoir projects, industrial uses of water, investment in ongoing and new projects with reference to regional imbalances in development, asset preservation etc. were discussed.

WATER RESOURCES DAY

The Water Resources Day is being organised all over the country since 1986 in the month of April in order to make the people more conscious about the problems associated with management of water, a limited precious resource. It was organised with great success at about 1200 centres during 1992. The theme for national debate was Water and Environment.

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17 Rural Development

MAJOR objective of rural development has been the alleviation of poverty in the rural areas. Indeed, this thrust has registered a success, evidenced by the fact that the population below the poverty line has come down significantly from over 57 per cent in 1961 to about 30 per cent by 1990. The experience gained in implementing a variety of community development programmes in the first three Five Year Plans and specific employment oriented programmes in the Fourth, Fifth, Sixth and Seventh Plans have added great strength to the national capabilities. Being on the threshold of the Eighth Five Year Plan and in midst of an economic transition due to major structural changes in the economy, the programmes for rural development have to be specific in their objective to bring about a directional change.

INTEGRATED RURAL DEVELOPMENT PROGRAMME

Integrated Rural Development Programme (IRDP) is a major instrument of the government strategy to alleviate rural poverty. The main objectives of IRDP are to raise families of the identified target group above poverty line and create substantial additional opportunities of self-employment in the rural sector. This programme is Centrally-sponsored with funds shared on 50:50 basis between the Centre and the states. In the case of UTs, cent per cent funds are provided by the Central government. The programme is being implemented through District Rural Development Agency (DRDA) and block level functionaries at the grass roots. At the state level, a coordination committee headed by Chief Secretary monitors its overall implementation.

In the Ministry of Rural Development, a Central Committee on IRDP and allied programmes of Training of Rural Youth for Self-Employment (TRYSEM) and Development of Women and Children in Rural Areas (DWCRA) is headed by a Secretary. Its main functions include framing and revision of guidelines ensuring their effective implementation. Targets and achievements for Sixth and Seventh Plan and the two successive years of 1990-91 and 1991-92 are indicated in table 17.1.

The programme has been evaluated through research conducted by independent institutions and also through Concurrent Evaluation Studies (CES). According to CES of January-December 1989 about 81 per cent of the old families crossed the poverty line of Rs 3,500 and 28 per cent the revised poverty line of Rs 6,400. However, about 78 per cent of the families had incremental income. Nearly 34 per cent of the assisted families belong to destitutes (Rs 1 to 2,265) and 46 per cent to very very poor group (Rs 2,266-3,500).

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During Seventh Plan, 181.8 lakh families were assisted with a total investment of Rs 8,688.35 crore as against 165.6 lakh families with an investment of Rs 4,762.78 crore in Sixth Plan. Over 49 per cent went to SC/ST families as against the target of 50 per cent. Coverage of women had increased from 9.90 per cent in 1985-86 to more than 33 per cent under IRDP in 1992-93. Major impact of the programmes was that it benefited the poorest and the most deprived sections of society, as also women in such a large number. Subsidy available to SC families under IRDP had been raised to 50 per cent and monetary ceiling to Rs 5,000 from 1990-91. Under IRDP the subsidy limit has been raised by Rs 1,000 in all cases with effect from 1 April 1993. The revised rates of subsidy limits is Rs 4,000 per family in non DPAP/DDP areas, Rs 5,000 in DPAP/DDP areas and Rs 6,000 for SC/ST/handicapped persons. There is no change in percentage limits of subsidy in any of the cases.

TABLE 17.1 TARGETS AND ACHIEVEMENTS

Year	Physical target	Achievement (lakh)	Allocation (Rs crore)	Utilisation (Rs crore)	Credit Mobilised	Investment (Rs crore)
Sixth Plan						
1980-81	30.07	27.27	250.55	158.64	289.05	447.69
1981-82	30.07	27.13	300.66	264.65	467.59	732.24
1982-83	30.07	34.55	400.88	359.59	713.98	1,073.57
1983-84	30.54	36.85	407.36	406.09	773.51	1,179.60
1984-85	30.27	39.82	407.36	472.20	857.48	1,329.68
Total	151.02	165.62	1,766.81	1,661.17	3,101.61	4,762.78
Seventh Plan						
1985-86	24.71	30.60	407.36	441.10	730.15	1,171.25
1986-87	35.00	37.47	543.83	613.38	1,014.88	1,628.26
1987-88	39.64	42.47	613.38	727.44	1,175.35	1,902.79
1988-89	31.94	37.72	687.95	768.47	1,231.62	2,000.09
1989-90	20.09	33.51	747.75	765.43	1,220.53	1,985.96
Total	160.38	181.77	3,000.27	3,315.82	5,372.53	8,688.35
1990-91	23.71	28.98	747.31	809.49	1,190.03	1,999.59
1991-92	22.52	25.37	703.61	773.09	1,147.34	1,920.43
1992-93 (Provisional)	18.75	20.62	662.22	694.16	1,021.12	1,715.28

NATIONAL SCHEME OF TRAINING OF RURAL YOUTH FOR SELF- EMPLOYMENT

National Scheme of Training of Rural Youth for Self-Employment (TRYSEM) was launched as a Centrally-sponsored scheme on 15 August 1979. Its main thrust is on equipping rural youth in the age group of 18-35 years with necessary skills and technology to take up vocations of self-employment in agriculture and allied activities, industry, services and business. Simul-

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taneously, another scheme for strengthening of infrastructure of training institutions was also introduced with Central assistance.

Liberalisation of norms for expenditure under recurring assistance, greater emphasis on systematic marketing and exploring possibility of setting up groups for the manufacture/assembly of non-traditional items for which there is good market demand are some of the steps taken to improve the implementation of the Scheme. On completion of training, the TRYSEM beneficiaries are assisted under the IRDP. During Seventh Plan, about 9.99 lakh rural youths were trained as against 10.15 lakh in Sixth Plan. Of the youths trained during the Seventh Plan, 4.65 lakh were self-employed and 1.31 lakh were employed on wages. During 1991-92, 3.01 lakh rural youths were trained. During the year 1992-93, 2.52 lakh rural youth were trained (provisional figure).

DEVELOPMENT OF WOMEN AND CHILDREN IN RURAL AREAS

Main objective of the programme for the Development of Women and Children in Rural Area (DWCRA) is to improve the lot of rural women through the creation of income-generating activities in a district. Districts to be covered are selected keeping in view low-literacy rate and high infant mortality rate. It envisages formation of groups of 5-10 rural women each for carrying on income generating activities. Each group is sanctioned a 'revolving fund' of Rs 15,000. In case of states, the amount is shared equally by Centre, state government and UNICEF, while in the union territories, the Central government bears Rs 10,000 per group and the balance is borne by UNICEF. UNICEF also bears the expenditure on the staff component for a period of six years which is fully reimbursed. The programme has made considerable progress since it was launched in 1982. During the Seventh Plan more than 28,000 women groups with a membership of 4.68 lakh were formed. During 1990-91, 7,139 groups with 1,07,557 members were formed. During 1991-92, 9,327 groups were formed with a membership of 2,08,492. During 1992-93, the target was 7,500 groups. At the end of 1992-93, the programme was implemented in 291 districts, 50 districts will be added during 1993-94.

SCHEME FOR RURAL ARTISANS

The scheme of supply of modern toolkits to rural artisans is a supporting component of the IRDP. It was started as a Centrally-sponsored scheme from 1992-93 in selected districts. The aim of the scheme is that rural artisans will be able to enhance the quality of the product, increase their production and income and will be in a position to lead better quality of life with the use of modern tools. All traditional rural artisans living below the poverty line except weavers, tailors, needle workers and *bidi* workers are covered under this programme. This programme was taken up under IRDP during 1992-93 in 62 districts covering 97,585 artisans. For 1993-94, it has been decided to

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cover 1.3 lakh artisans in 100 additional districts, 1,300 artisans will be covered in each district at the rate of average subsidy of Rs 1,800 per artisan.

COUNCIL FOR ADVANCEMENT OF PEOPLE'S ACTION AND RURAL TECHNOLOGY

Council for Advancement of People's Action and Rural Technology (CAPART) was registered under the Societies Registration Act, 1860, on 1 September 1986, with headquarters in New Delhi with the merger of People's Action for Development, India (PADI) and Council for Advancement of Rural Technology (CART). It aims at encouraging, promoting and assisting voluntary action for enhancement of rural prosperity.

In pursuance of these objectives, CAPART makes available financial assistance to voluntary organisations under the following schemes: (i) promotion of voluntary action in rural development; (ii) Development of Women and Children in Rural Areas (DWCRA); (iii) Accelerated Rural Water Supply Programmes (ARWSP); (iv) Central Rural Sanitation Programme (CRSP); (v) Organisation of Beneficiaries of Anti-poverty Programme (OB); (vi) Integrated Rural Development Programme (IRDP); (vii) Jawahar Rozgar Yojana (JRY) and (viii) Advancement of Rural Technology Scheme (ARTS).

Its funds mainly comprise grants by the Ministry. The Counal can,however, obtain grants from various Central and state government departments and also accept donations and contributions from other sources. CAPART had sanctioned 7,375 projects worth Rs 145.11 crore upto 30 June 1992.

RURAL EMPLOYMENT

Rural unemployment and under-employment which particularly affect the poorest segments of rural population have been major contributory factors to high incidence of poverty in rural areas. Various pilot projects were, therefore, launched to step up rural employment. Programmes like Crash Scheme for Rural Employment (CSRE) and Pilot Intensive Rural Employment Programme (PIREP) were started during Fourth Plan. In October 1980, National Rural Employment Programme (NREP) was launched as a Centrally-sponsored scheme on 50:50 sharing basis between Centre and states with the three fold objectives of generating additional gainful employment opportunities, creating durable community assets and improving overall quality of life in the rural areas. In 1983, it was followed by Rural Landless Employment Guarantee Programme (RLEGP) as cent per cent Centrally-sponsored scheme. The objective was to improve and expand employment opportunities particularly for rural landless labourers and provide guarantee of employment to atleast one member of every rural landless labour household up to 100 days in a year.

During Sixth Plan period, Rs 1,834 crore was spent on NREP in both Central and state sectors, creating over 17,752 lakh mandays work. In first

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four years of the Seventh Plan Rs 2,940 crore was spent on NREP creating 14,775 lakh mandays work. Under RLEGP, Rs 385 crore and Rs 2,412 crore were spent during Sixth and first four years of the Seventh Plans creating work of 2,628 lakh mandays and 11,544 lakh mandays respectively. Since 1 April 1989, NREP and RLEGP have been merged into one single rural employment programme to be known as Jawahar Rozgar Yojana (JRY.)

Primary objective of the programme is generation of additional gainful employment for unemployed and under employed persons in the rural areas. Besides, secondary objectives are: (i) creation of productive community assets for direct and continuing benefits to poverty groups and strengthening rural economic and social infrastructure which will lead to rapid growth of rural economy and steady rise in income levels of rural poor and (ii) improvment on overall quality of life.

Allocations to states under the new programme are made entirely on the basis of incidence of poverty. From the states to districts, the allocation of resources is done on the basis of agricultural labourers as percentage of the main workers in rural areas, percentage of SC/ST rural population to total rural population and inverse of agricultural productivity in the weights of 20:60:20. The allocation to village Panchayats is done by giving weights of 60 per cent to SC/ST population and 40 per cent to the total population, including SC/ST population of the village Panchayats. The population of each village Panchayat having less than 1,000 population is to be taken as 1,000 and more than 10,000 as 10,000. Village Panchayat is free to choose any item of work on the basis of felt need of the people. Preference is given to works which create economically productive assets. During the year 1992-93, an allocation of Rs 2,046 crore as Central share and Rs 510 crore as states matching share has been made with target of creating employment of 7,537.95 lakh mandays.

PANCHAYATI RAJ

Panchayati Raj institutions are in existence in almost all states and union territories with variations in structural pattern. Generally, *Panchayati Raj* system involves a three-tier arrangement–village level, block level and district level. The first tier at village or groups of villages level is commonly known as *Gram Panchayat*, the second tier at block level as *Panchayat Samiti* and the third tier at district level as *Zila Parishad,* except in some states/union territories. However, the second tier is known as *Mandala Praja Parishad* in Andhra Pradesh, *Taluka Panchayat* in Gujarat, *Taluka Panchayat Samitis* in Karnataka. *Janapad Panchayat* in Madhya Pradesh, Panchayat Union in Tamil Nadu, *Kshetra Samiti in* Uttar Pradesh and *Anchal Samiti* in Arunachal Pradesh. Similarly, the third tier is called *Mahkuma Parishad* in Assam at sub divisional level, District Development Councils in Tamil Nadu and District Council in Kerala.

The tenure of Panchayati Raj institutions ranges from three to five years. These institutions are generally responsible for promotion of agriculture,

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rural industries, provision of medical relief, maternity, women and child welfare, maintaining common grazing grounds, village roads, tanks, wells, sanitation and execution of other socio-economic programmes. In some places, they also provide primary education and collect land revenue. Today, gram panchayats are involved in identification of beneficiaries in antipoverty programmes for IRDP and exectution of other rural development programmes like JRY. There are about 2.20 lakh Gram Panchayats, 5.5 thousand Panchayat Samitis and 371 Zila Parishads (including superseded institutions).

DROUGHT-PRONE AREAS PROGRAMME

Drought-Prone Areas Programme (DPAP) was initiated in 1973 as an integrated area development programme. The Programme was conceived as a long term measure for restoration of ecological balance by conserving, developing and harnessing land, water, livestock and human resources. The objectives of the programme are: (a) to minimise the adverse effects of drought on production of crops and livestock and productivity of land, water and human resources through integrated development of the natural resource base of the area and adoption of appropriate technologies and (b) to conserve, develop and harness land, water and other natural resources including rainfall for restoration of ecological balance in the long run.

DPAP is under implementation in 615 blocks of 95 districts in 13 states. Present coverage of the programme is based on the recommendations of the Task Force on DPAP and DDP (1982) as modified by the Inter Department Group (1984). Total area covered under the programme is about 5.54 lakh sq km and the total population in the areas covered by the programme is about 707.5 lakh (1981 Census).

The funds for the programme are shared by the Government of India and the states concerned on a 50:50 basis. An outlay of Rs 237 crore was provided for this programme in the Central Plan for Seventh Plan period. During 1992-93 an annual allocation of Rs 102.23 crore was made to the programme states. For 1993-94 allocation for states is Rs 153.34 crore.

Since inception (1973-74) till March 1993 an amount of Rs 1,423.96 crore has been spent under the programme. The following physical achievements have been made under the programme upto March 1993:

	Sector	(hectares)
1.	Land shaping and development and soil moisture conservation	26,87,795
2.	Water resources development	8,89,918
3.	Afforestation and pasture development.	15,99,641

DESERT DEVELOPMENT PROGRAMME

Desert Development Programme (DDP) was started in 1977-78 with the objectives of (i) controlling desertification of the desert areas through integrating and dovetailing other related state/Central programmes with these

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programmes and (ii) to conserve, develop and harness land, water and other natural resources including rainfall for restoration of ecological balance in the long run. The objectives are sought to be achieved through activities such as afforestation, with special emphasis on sand dune stabilisation and shelter belt plantation and grassland development, soil and moisture conservation and water resources development. It covers 131 blocks of 21 districts in five states. The programme also covers cold arid areas of Jammu and Kashmir and Himachal Pradesh. The area covered under this programme is about 3.62 lakh sq km and the population in the area covered is about 1.5 crore (1981 Census).

The programme is implemented with cent per cent Central financial assistance. Allocations up to 1992-93 were made at the rate of Rs 24 lakh per 1,000 sq km, the ceiling per district being Rs 500 lakh. For cold desert areas, a lumpsum provision is made, the rate being Rs 100 lakh per district per year for Himachal Pradesh and Rs 150 lakh per district per year for Jammu and Kashmir. During 1990-91 an annual allocation of Rs 49.50 crore was made to the programme states. During 1991-92, 1992-93 the annual allocation remained at the same level. Rate of allocations for 1993-94 is Rs 36 lakh per 1,000 sq km subject to a maximum of 750 lakh. For cold desert in J&K allocation is Rs 225 lakh per district and in HP it is at Rs 150 lakh per district. For 1993-94 allocation for states is Rs 74.25 crore.

Since inception (1977-78) till March 1992 an amount of Rs 387.16 crore has been spent under the programme. During the Seventh Plan period, a sum of Rs 194.05 crore has been spent under this programme. The following physical achievements have been made under the Programme. up to March 1993:

Sector		(hectares)
1.	Land shaping and development Soil moisture conservation	1,20,176
2.	Water resources development	55,129
3.	Afforestation and pasture development	2,27,948

LAND REFORMS

Land reforms have remained one of the major policies for rural and economic development ever since the inception of the planning process. Old agrarian structure was not very conducive to modernisation of agriculture and was sought to be replaced by a more egalitarian social structure. Land reforms programme has, therefore, been designed to break the old feudal socio-economic structure of rural India to provide greater fillip to modernisation of agriculture and promote agricultural productivity. It is also intended to bring in the largest possible number of poor farmers and agricultural workers in the mainstream of the process of economic development. It helps to raise the status of the weaker sections of society and gives them a sense of belonging to the mainstream of social life. The programme of land reforms has, therefore, been rightly viewed not only as an economic development measure

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but also as a measure of social uplift. Seventh Plan viewed land reform as an intrinsic part of the anti-poverty strategy.

Among the important achievements is the abolition of intermediary tenures as a result of which more than 200 lakh tenants have been brought into direct contact with the state. Besides, a large part of an estimated 60 lakh hectares of waste, fallow and other classes of land vested in the state have been distributed to the landless and marginal land holders.

TENANCY REFORMS

Legislative provisions have been made in most states of the country providing ownership rights to tenants/security of tenure to tenants/subtenants/share-croppers. Provisions regarding fixation of rents payable by the tenant and prohibition of eviction except on specified grounds further strive to safeguard the interest of the tenants, 112.13 tenants have been conferred ownership rights in respect of 153 lakh acres of land.

Several states enacted land ceiling laws in the 50s and 60s. As a result of this, more than 9.93 lakh hectares of land were taken over by the states and out of this 7.5 lakh hectares were distributed to the landless poor. The land ceiling laws were subsequently re-enacted by the states in conformity with national guidelines issued in 1972. Till December 1992, in all 73.76 lakh acres have been declared surplus in the old and revised ceiling laws. Out of this, 64.10 lakh acres has been taken possession of and 50.31 lakh acres has been distributed to 46.10 lakh landless agricultural labourers and other eligible persons. The issues relating to the completion of distribution of surplus lands and all relevant aspects of land reforms and land records management were discussed at a conference of state revenue ministers held on 14 March 1992 at New Delhi under the chairmanship of Prime Minister. It was decided during the conference that the distribution of all available surplus land free from encumbrances may be distributed by 30 June 1992 and atleast 75 per cent of the land involved in litigation in revenue courts must be freed from such litigation and distributed by 30 September 1992. In addition, certain other recommendations in regard to land records and distribution of Bhoodan land were also made. These recommendations have been sent to the states/UTs for necessary follow-up action.

Since much of the land distributed under the ceiling laws is of poor quality, the assignees are being provided financial assistance at the rate of Rs 2,500 per hectare. So far, financial assistance by way of grant to the tune of Rs 59.72 crore as Central share has been released to different states/union territories. The assignees are also accorded priority under other-on-going programmes. *viz.*, IRDP and Jawahar Rozgar Yojana.

LAND RECORDS

Correct and up-to-date land records are an essential pre-condition for effective implementation of land reforms measures, particularly for providing security of tenure to tenants and share-croppers and for smooth flow of credit

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and agricultural inputs to the land holders. In some states, land records and crop records are updated periodically. A Centrally-sponsored scheme for revitalising the revenue administration and updating the land records is being implemented to provide financial assistance to the states for strengthening the machinery for survey and settlement operations, use of modern technology such as photomapping, aerial survey, mechanisation of land records, resturcturing of revenue machinery and improving training infrastructure. Simultaneously, initiative has also been taken to computerise land records. Pilot projects for computerisation of land records are being implemented in one district each of the 21 selected states/UTs.

CONSOLIDATION OF HOLDINGS

Fragmented agricultural holdings stand in the way of rationalisation of agriculture and adequate investment of capital and inputs of land. Consolidation of these fragmented holdings is thus an important measure to boost efficiency and ecomomy in agriculture. It also provides an opportunity for planned development of villages. Legislative provisions have been made in many states for undertaking consolidation of holdings. So far 602 lakh hectares have been consolidated. Bulk of this work has been done in Maharashtra, Uttar Pradesh, Haryana, Punjab, Bihar and Orissa.

LAND ACQUISITION

The Land Acquisition Act, 1894, which is the basic law for the acqusition of land for public purposes and for companies provides for a maximum time limit of three years for completion of land acquistion proceedings. This Act was comprehensively amended by the Land Acquisiton (Amendment) Act, 1984, with a view to protect the interests of land losers.

RURAL WATER SUPPLY

Provision of drinking water in the rural areas is the responsibility of the state government and funds have been provided in the state budget right from the commencement of the First Five Year Plan in 1951. Taking into account the magnitude of the problem and in order to accelerate the pace of coverage of villages without water supply, Government of India introduced the Accelerated Rural Water Supply Programme in 1972-73. The states and union territories were assisted with cent per cent grants-in-aid to implement the schemes in villages without water supply. The programme continued upto 31 March 1974. In 1974-75, with the introduction of Minimum Needs Programme, the Accelerated Rural Water Supply Programme was withdrawn. However, it was reintroduced in 1977-78 when it was found that the progress of supply of safe drinking water to the problem villages was not as per expectations.

In August 1985, the subject of Rural Water Supply and Sanitation was transferred from the Ministry of Urban Development to the Department of Rural Development with the objective of securing quick implementation and better integration with other rural development programmes. The

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National Drinking Water Mission was launched as one of the five societal missions in 1986. The mission was renamed as Rajiv Gandhi National Drinking Water Mission.

A survey was conducted in 1985 to identify problem villages (i.e. without even one source of safe drinking water). About 1,61,722 problem villages, including spillover problem villages from Sixth Five Year Plan, remained as on 1 April 1985 to be covered in the Seventh Five Year Plan, i.e. upto 31 March 1990. Upto 1991-92, 1,58,754 problem villages were covered, leaving a balance of 2,968 problem villages as on 1 April 1992. Out of these villages, 2,218 'No Source' villages were covered in 1992-93, leaving 750 hardcore villages. These villages are expected to be covered with safe drinking water by March 1994 with special assistance already given by the Central Government. An amount of Rs 2,479 crore was utilised under the State Sector MNP and a sum of Rs 1,906.64 crore was utilised under ARWSP for providing water supply in the rural areas during the Seventh Plan. During the annual plans 1990-91 and 1991-92, an expenditure of Rs 1,265 crore was utilised under MNP and Rs 1,055 crore under Technology Mission including ARWSP.

The total outlay provided for Rural Water Supply during the Eighth Five Year Plan is Rs 5,100 crore under the Central Sector and Rs 4,954.52 crore under the states to provide potable drinking water to the entire uncovered rural population during the Eighth Plan period.

In 1992-93, an outlay of Rs 804.83 crore was provided under the State Sector Minimum Needs Programme and Rs 459 crore was utilised under TM/ARWSP. An outlay of Rs 740 crore has been provided under the Central Sector and Rs 48.15 crore by the states in 1993-94.

A massive survey of all rural habitations in the country to identify the status of drinking water supply and quality problems has been undertaken. The survey results have started coming in. Once the complete data is available, a clear picture of status of water supply in rural habitations will emerge and an appropriate strategy will be worked out for implementation of the programme during the remaining period of the Eighth Five Year Plan.

Under the guidelines, the first source of drinking water has to be provided in SC/ST localities and at the time of formulating the scheme, coverage of SC/ST habitations should be given first preference. From the year 1990 onwards, a minimum of 25 per cent of ARWSP funds have been earmarked for provision of water supply for SCs and 10 per cent for drinking water supply for STs. Such funds cannot be diverted for any other purpose. To give a further thrust to coverage of SC/ST habitations, the Centre released special assistance of Rs 19.80 crore in March 1990 for coverage of 11,000 SC/ST habitations in nine states. As part of Dr. Baba Saheb Ambedkar Centenary Programme, Government of India released further special assistance of Rs 56.74 crore in 1991-92,Rs 2.02 crore in 1992-93 and Rs 0.75 crore in 1993-94 to 24 states for the coverage of 30,000 SC/ST habitations with safe drinking water facilities.

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CENTRALLY SPONSORED RURAL SANITATION PROGRAMME

About 0.72 per cent of the rural population had been provided with sanitation facilities till the end of the Sixth Plan. Against the target of coverage of 25 per cent of the rural population in the Seventh Plan, the actual achievement till the end of 1991-92 was only 2.73 per cent of the rural population with government programme. According to the National Sample Survey (44th round 1988-89) about 10.96 per cent of rural households had access to sanitary facilities. In addition to the achievement under governments sponsored programmes, the construction of large number of sanitation toilets has been undertaken with private initiative. Inadequate financial resources, lack of demand from the beneficiaries, lack of response from implementing agencies and number of other related factors were responsible for this slow progress.

During 1991-92 and 1992-93, 35,218 sanitary latrines were provided in rural areas in addition to 2,62,391 sanitary latrines constructed under the State Sector Minimum Needs Programme. A first ever National Seminar on Rural Sanitation was organised on 16 and 17 September 1992. The seminar emphasised the sociological aspects, adoption of appropriate technology and research and development; need for institutional sectoral linkages as well as human resource development; community participation and role of women. It was reiterated that sanitation is possible only with the people's active involvement and participation with the generation of demand as the pre-requisite.

The Government has since introduced a revised Centrally Sponsored Rural Sanitation Programme according to which the subsidy will be limited to 80 per cent of the unit cost of individual household latrines for persons below the poverty line. The subsidy will be shared equally by the Central government and the concerned state government. The contribution by the users can be provided in the form of cash or kind or labour. The programme also provides for conversion of dry latrines into sanitary latrines on priority basis in order to abolish the system of manual scavenging; exclusive complex for women; the concept of total sanitation with drains, pavement of lanes, sokage pits, garbage pits, clean surroundings around the drinking water source etc. The states have also been requested to develop one model village under the integrated sanitation programme.

The total outlay of Rs 380 crore for the Centrally Sponsored Rural Sanitation Programme and Rs 294.23 crore under the State Sector Minimum Needs Programme has been provided during the Eighth Five Year Plan. The allocation for 1993-94 is Rs 49.86 crore under the State MNP and Rs 30 crore as Central assistance to states and voluntary organisations through the Council for Advancement of People's Action and Rural Technology (CAPART).

RURAL ROADS

Rapid development of rural roads plays a vital role in the linkage of the villages to markets and services. It is a part of the Minimum Needs

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Programme (MNP) in the state sector. Outlays for this programme are provided in the plans of states/UTs. The Sixth Plan envisaged linking of all villages with a population of 1,500 and above and 50 per cent of the villages with a population of 1000-1500 by the end of the Seventh Plan.

Since the population in the hill, tribal, coastal and desert areas is sparce and settlements are located at long distances from one another, MNP norms for rural roads in these areas were revised for Seventh Plan as follows (a) hill areas: (i) 100 per cent linkage during the time frame of 10 years to villages with population over 500 and (ii) 50 per cent linkage during the time frame of 10 years to villages with population 200-500; (b) tribal, coastal and desert areas: (i) 100 per cent linkage during a time frame of 10 years to villages with population over 1000 and (ii) 50 per cent linkage during 10 years time frame to villages with population 500-1000.

As per information available, the outlay and expenditure incurred and the physical progress on the linkage of villages by all weather roads is given in table 17.2 and 17.3 respectively.

TABLE 17.2 OUTLAY AND EXPENDITURE—RURAL ROADS UNDER MNP

(Rs in crore)

Year	Outlay	Expenditure
1990-91	410.45	452.82
1991-92	414.13	375.38
Eighth Plan 1992-97	3066.10	
1992-93	508.32	449.21 (Anticipated)

TABLE 17.3 LINKAGE OF VILLAGES BY ALL WEATHER ROADS

	Village Category 1000-1500	Population wise 1500 and above
(i) Total number of villages	57,859	67,915
(ii) Villages connected[1]		
(a) Upto 31 March 1991	41,248	63,631
(b) Upto 31 March 1992	42,084	64,570

1. Provisional

The Centrally-sponsored scheme for construction of roads in special problem areas, earlier known as dacoity-prone areas of Uttar Pradesh, Madhya Pradesh and Rajasthan is being implemented from 1985-86. The main thrust of the scheme is to accelerate economic development of dacoity infested areas by development of roads.The scheme is funded by Government of India and the state government concerned in the ratio of 50:50. Central funds earmarked in the budget are released in the proportion of 48 per cent to Uttar Pradesh and 26 per cent each to Madhya Pradesh and Rajasthan. Estimates of works sanctioned and amount released to these states during 1985-92 and 1992-93 is given below.

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(Rs in crore)

Item	Uttar Pradesh	Madhya Pradesh	Rajasthan	Total
1985-92				
(i) Estimates of works	88.65	19.84	30.31	138.80
(ii) Amount released by Central Govt.	31.78	9.04	12.83	53.65
1992-93				
(i) Estimates of works	-	-	-	-
(ii) Amount released by the Central Govt.	1.96	-	-	1.96

AGRICULTURAL MARKETING

Directorate of Marketing and Inspection (DMI) under the Department of Rural Development advises Central and state governments on agricultural marketing problems. It enforces compulsory quality control on 41 agricultural commodities before their export. Besides a number of important commodities are graded under Agmark for internal consumption. These include cotton, vegetable oils, *ghee*, cream, butter, eggs, rice, wheat, flour, *besan*, jaggery, *bura*, curry powder, honey, ground spices, potatoes, fruits, etc. In all, grade specifications under Agmark have been formulated for 142 commodities.

Twentytwo regional laboratories have been set up to ensure purity and quality of Agmark products. Central Agmark Laboratory at Nagpur functions as the apex body. Laboratories at Nagpur, Bombay, Calcutta and Madras are equipped with biological testing units. A large number of producer level grading centres have also been established in various states to help farmers in getting price commensurate with quality. Agricultural commodities worth Rs 3,893.23 crore were graded at 1,051 producer-level grading centres during 1990-91. Regulation of markets is yet another important function of agricultural marketing. It is done by the state governments while DMI renders advice in framing market *legislation* and its enforcement. There were 6,640 regulated markets in the country by March 1991.

REGULATION OF MARKETS

The Directorate of Marketing and Inspection (DMI) is implementing a scheme for providing financial assistance to primary and secondary rural markets to develop infrastructural facilities. The scheme has acted as a catalyst to induce state governments in taking up market development programme. Central assistance worth Rs 84.52 crore has been provided to 3,763 markets.

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The scheme of marketing research and surveys has two programmes, namely, (i) market research and planning and (ii) market planning and design. DMI carries out countrywide market surveys on important agricultural, horticultural and livestock commodities to identify and study problems of agricultural marketing. It also suggests remedial measures. Surveys of a number of wholesale markets for fresh fruits and vegetables have been carried out by the Market Planning and Design Centre (MPDC) to make suggestions for their development and improvement. MPDC also gives technical assistance in preparation of state master plans for development of agricultural produce market.

COTTON CLASSING SCHEME

A cotton classing centre was established at Surat in 1969-70 as a pilot project to provide facilities for grading of cotton lint to growers, cooperatives and others. With the success of this pioneer scheme, five more such centres have been established–one each in Maharashtra (Nagpur), Karnataka (Raichur), Tamil Nadu (Tirupur), Madhya Pradesh (Khandwa) and Punjab (Abohar).

COLD STORAGE AND MEAT PRODUCTS

The Cold Storage Order 1980, enforced by the Directorate, aims at developing cold storage industry in a planned manner, ensuring hygienic conditions and proper refrigeration and rendering technical guidance for scientific preservation of food-stuffs. There were 1,296 storages with capacity of about 13 lakh tonnes licensed under the order by the end of March 1991. Besides, a large number of cold storages have been licensed by Haryana, Punjab, Uttar Pradesh and West Bengal under their own Acts/Orders. It implements the Meat Food Products Order, 1973 to ensure quality control of meat products for human consumption. Under the Order, 250 licences were granted upto June 1991. It also conducted seven regular training courses for the benefit of employees of state government regulated market committees, cooperative societies and various commodity boards/corporations. As a part of routine activity, the Directorate has organised three national seminars during 1991-92. These are, i) National Seminar on Marketing of Onion; ii) National Seminar on Rural Primary Markets as Growth Centres and Creation of Storage Facilities and iii) National Seminar on Modern Techniques in the Analysis of Food and Agricultural Products. Producers and consumers are constantly exposed to the advantages of products marked Agmark through various media, trade fairs and seminars. The Directorate also brings out a quarterly journal, *Agricultural Marketing*.

Department of Rural Development is also implementing a scheme to set up rural godowns with a view to creating a network of such godowns in states/UTs primarily to take care of storage requirements of agricultural producers, particularly small and marginal farmers.

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MONITORING

Monitoring is an important tool for ensuring proper implementation of any project/programme. It helps in ascertaining that the project is progressing according to plan and all physical and financial inputs and other requisite supportive activities are available according to schedule. Considering this, the Ministry of Rural Development developed comprehensive system of monitoring in respect of major programmes like JRY, IRDP, RWSP, DPAP and DDP. Physical and financial achievements under each programme are being obtained from various states/districts and implementing agencies at regular intervals on prescribed formats. Performance of various programmes is reviewed on the basis of these reports and corrective as well as supportive measures are taken to improve their implementation.

CONCURRENT EVALUATION

Besides monitoring, performance of various rural development programmes is assessed through periodical returns and visits by senior officers to the field. The Ministry also conducts concurrent evaluation studies (CES) in respect of major rural development programmes. This is done with the help of independent reputed research institutions to ascertain areas of concern and streamline and improve the pace of implementation. First round of CES of IRDP was taken up from October 1985 to September 1986; second round from January 1987 to December 1987 and third round from January 1989 to December 1989 with the help of reputed research institutions. Findings of these surveys were found very useful which helped planners/implementors to restructure the programme for more effective implementation. Fourth round is likely to be undertaken in the near future. CES of Rural Water Supply Programme was undertaken from October 1986 to September 1987 to assess the status of drinking water sources in rural areas and CES to NREP from November 1987 to October 1988. CES of JRY has been conducted by 33 independent research institutions/organisations during the period from January 1992 to Decmeber 1992 and a preliminary Report on concurrent Evaluation of JRY has been brought out.

COMPUTERISED RURAL INFORMATION SYSTEM

For timely flow and proper management of immense data generated under major rural development programmes and thereby improving their monitoring system, the Ministry of Rural Development had started in 1985 a scheme of Computerised Rural Information System (CRISP) on a pilot basis in 10 districts with NIC as nodal agency. The experience showed that it was possible to develop quickly a computerised data base on rural development at DRDA level. It was decided to set up mini computer centre in all the DRDAs using fund available under administrative infrastructure. Necessary training was

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given to DRDA staff by NIC with the technical guidance and support of NIC, the software for CRISP has also been developed in DRDA and in about 300 districts the system is operational now. In a recent meeting held in May 1992, the progress of computer activities in DRDAs was reviewed. Based on the feed back received from NIC, linking up activity between NIC district system and DRDA computer has been taken up, subject to availability of telephone line. Six DRDAs in Orissa have been connected to NIC district system and using NICNET facility.

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18 Food and Civil Supplies

THE MINISTRY of Food is responsible for complex and large scale operations such as procurement of foodgrains, their timely movement to deficit regions, building up and maintenance of buffer stocks and creation of adequate scientific storage capacity. Production, stock and price level have to be closely monitored, stock releases and imports suitably timed and regulated to maintain adequate availability at reasonable prices.

FOOD

FOOD PRODUCTION

Production of foodgrains from 1988-89 to 1992-93 is given in table 18.1

TABLE 18.1 PRODUCTION OF FOODGRAINS

(in lakh tonnes)

Crop	1988-89	1989-90	1990-91 Revised	1991-92 Final	1992-93 (likely)
Rice	704.9	735.7	742.9	736.6	726.0
Wheat	541.1	498.5	551.4	550.9	561.9
Coarse Cereals	314.7	347.6	327.0	262.6	369.2
Pulses	138.5	128.6	142.6	120.5	146.9
Total	1,699.2	1,710.4	1,763.9	1,670.6	1,812.0

PROCUREMENT OF FOODGRAINS

Procurement of foodgrains at support prices ensures stability in farm prices. Table 18.2 gives an idea about the quantum of procurement of main food crops, *viz.* rice and wheat since 1988-89 marketing season.

TABLE 18.2 PROCUREMENT OF FOOD GRAINS

Lakh tonnes

	1988-89	1989-90	1990-91 (P)	1991-92 (P)	1992-93 (P)	1993-94 (P)
Rice[1]	77.29	118.67	126.76	102.47	130.41[3]	
Wheat[2]	65.81	89.42	110.65	077.52	63.80(P)	128.33

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1. Marketing Season: October-September
2. Marketing Season: April-March
3. As on 10 September 1993

P Provisional

BUFFER STOCKS

According to the Buffer Stocking Policy of Foodgrains, the total minimum stocks with public agencies as on different dates in a year should be as under:

(Million tonnes)

Date	Wheat	Rice	Total
First April	3.7	10.8	14.5
First July	13.1	9.2	22.3
First October	10.6	6.0	16.6
First January	7.7	7.7	15.4

STOCK POSITION

As on 31 March 1993, stocks of foodgrains with public agencies stood at 146.92 lakh tonnes as against 121.70 lakh tonnes on the same date last year.

DISTRIBUTION

Total public distribution of foodgrains in 1992 was about 191.39 lakh tonnes. Under a scheme, introduced in December 1985, foodgrains are being distributed to the people living in the areas covered by the Integrated Tribal Development Projects and tribal majority states at specially subsidised rates at Rs 3.05 per kg of wheat and Rs 4.12 per kg of common rice (with effect from 11 January 1993). The scheme covers all Integrated Tribal Development Project areas, the tribal majority states/union territories *viz.* Nagaland, Meghalaya, Arunachal Pradesh, Mizoram, Lakshadweep and Dadra and Nagar Haveli, and North Cachar and Karbi Anglong hill districts of Assam. Supplies of wheat and rice for this purpose are made by the Food Corporation of India to the various states/union territories at specially subsidised rates of Rs 2.80 per kg of wheat and Rs 3.87 per kg. for common rice with effect from 11 January 1993. A margin of Rs 0.25 per kg is allowed to state governments for being passed on to the beneficiaries for the costs involved in transport and distribution.

The tribal areas are now part of the Revamped Public Distribution System (RPDS) launched by the Prime Minister with the objecitve of improving the reach of PDS to the vulnerable sections living not only in these areas but also in other poor areas composed of drought prone, desert and hill areas. Foodgrains at a specially subsidised Central Issue Price are also being issued with effect from 1 June 1992 for distribution in about 1,700 areas/blocks identified under the RPDS. The total offtake of foodgrains under this System during June-December 1992 was about 22.3 lakh tonnes

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comprising 10.8 lakh tonnes of wheat and 11.5 lakh tonnes of rice. The RPDS scheme is being implemented by Ministry of Civil Supplies, Consumer Affairs and Public Distribution and monitored by Ministry of Food.

IMPORTS

During 1992-93, Government has contracted for import of 29.90 lakh tonnes of wheat and 2.15 lakh tonnes of rice.

EXPORTS

During 1992-93 exports of wheat and non-basmati rice from Food Corporation of India's stocks were as follows:

(Quantity lakh tonnes)

Year	Commodity	Gift/Aid	Commercial	Total
1991-92	Wheat	-	7.26	7.26
	Rice	0.17	0.31	0.48
1992-93 (upto 31 December 1992)	Wheat	-	0.12	0.12
	Rice	0.03	0.19	0.22

INTERNATIONAL COOPERATION

The 117th Session of International Wheat Council meeting held in London on 22-23 June 1992 and the seminar on 'Future of World Grain Trade' held on 24 June 1992 were attended by Secretary (Food) and Joint Secretary concerned. 118th Session of IWC had also been held in London on 30 November and 1 December 1992. India is also a member of the SAARC Food Security Reserve Board and its fourth meeting was held from 6-9 December 1992 at Dhaka.

STORAGE

There are three agencies in the public sector which are engaged in building large scale storage/warehouse capacity, namely Food Corporation of India (FCI), Central Warehousing Corporation (CWC) and 16 State Warehousing Corporations (SWCs). FCI is the main agency which provides storage facility for foodgrains. Besides constructing its own godowns, FCI hires storage capacity from other sources such as CWS, SWCs, state governments and private parties. The main functions of CWC and SWCs are to acquire and build warehouses at suitable places and operate them for storage of agricultural produce, fertilizers and certain other items. The cooperatives provide storage facilities at the primary and marketing level.

The covered storage capacity available with the FCI upto 31 October 1992 both owned and hired was 172.60 lakh tonnes (This includes 19.71 lakh tonnes capacity hired from CWC and SWCs). The total covered storage capacity with the Central Warehousing Corporation till 31 October

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1992 was 64.12 lakh tonnes. The covered storage capacity available with the State Warehousing Corporations, both owned and hired taken together was 90.34 lakh tonnes as on 31 October 1992. The Central Warehousing Corporation is also operating 169 custom bonded warehouses with a total capacity of about 8.81 lakh tonnes as on 31 March 1992. The CWC operates air cargo complexes at Amritsar and Goa to cater to the needs of export trade. It is also operating container freight stations at Patparganj (Delhi), Royapuram (Madras), Bhandup (Bombay), Jawaharlal Nehru Port (Bombay), Kalamboli (Pune), Adalaj (Ahmadabad), Sanatnagar (Hyderabad) and Virugambakam (Madras), besides a joint venture with Punjab State Warehousing Corporation at Ludhiana. The CWC has 16 associates in the State Warehousing Corporations.

STORAGE AND RESEARCH

QUALITY CONTROL

Storage and Research Division is responsible for the formulation of uniform specifications for procurement of foodgrains to deal with policy matters in respect of technical aspects for their import and export. It also renders advice to the Food Corporation of India, state governments and other agencies on preservation and quality aspects. For this purpose, Central Grain Analysis Laboratory undertakes analysis of samples of imported and indigenous foodgrains and their products. Three quality control cells functioning at New Delhi, Calcutta and Hyderabad monitor quality of foodgrains during procurement, storage and distribution period.

RESEARCH

Research and development on storage and preservation of foodgrains is carried out at the Indian Grain Storage Institute (IGSI), Hapur and its five field stations at Ludhiana, Hyderabad, Jabalpur, Udaipur and Jorhat. It covers both farm-level and large-scale storage of foodgrains.

SAVE GRAIN CAMPAIGN

Save Grain Campaign (SGC), which was launched as a pilot project in 1965-66, has become a regular scheme since 1969-70. It seeks to popularise scientific methods of foodgrains storage at farm-level. The scheme aims at providing appropriate technology through education, motivation and persuasion in preventing losses and improving farm-level storage. Simple, but effective methods of foodgrains storage and pest control are being popularised with supply of improved types of metal bins and pesticides. The main idea is to help farmers minimise storage losses. This campaign is being undertaken through a network of its 14 regional teams and three sub-teams of technical staff in close collaboration with the state governments. This is supplemented by the Indian Grain Storage Institute, Hapur and its five field stations.

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NUTRITION

The nutritional status of the people has been regarded as the most important social indicator of development. A number of nutrition interventions have been made in recent years by different sectors of the Government which have direct and indirect impact on the nutritional status of the people. The nutrition programmes of the Food and Nutrition Board in the Ministry of Food are directed towards improving the nutritional status of the people through a combination of measures such as: (i) nutrition education and training; (ii) development and promotion of nutritious foods and (iii) fortification and enrichment of foods.

Nutrition Education has been one of the important activities of the Ministry for more than two decades. Thirtyfour mobile food and nutrition extension units (MEUs) equipped with mobile van, audio visual equipments and technically trained personnel have been set up by the Ministry in different parts of the country to impart nutrition education in rural, urban and tribal areas. These units organise live demonstrations supported by lecture-cum-discussions, film and slide shows and exhibitions on various aspects of food, nutrition and health in collaboration with state governments, educational institutions and voluntary organisations. The Ministry of Food also has 33 food and nutrition extension centres (FNECs) in different parts of the country for imparting education and training in home-scale preservation of fruits and vegetables and also in nutrition, mainly to the housewives and adolescent girls and providing processing facilities for fruits and vegetables for domestic consumption. For integration of the activities of MEUs and FNECs, these units have since been amalgamated and are now known as community food and nutrition extension units (CFNEUs).

Realising the importance of integrated approach to nutrition education, the Ministry of Food is implementing an integrated nutrition education scheme with a view to equip the grass-root level workers of the concerned sectors with simple knowledge on food, nutrition and health so that these messages are conveyed to the community by all field functionaries during the course of their respective duties. Intensive training is imparted to grass-root level workers and their supervisors belonging to different sectors implementing nutrition, health and welfare programmes by CFNEUs by organising integrated nutrition education camps at the block level and orientation training courses at state level training institutes or home science colleges respectively. The Ministry has initiated networking with NGOs, home science colleges, etc., with a view to expand the scope and area of coverage under the nutrition education and extension activities by providing modest financial and technical support. Educational/training material including mass communication material like video documentary films, slide sets with audio commentary and TV spots/quickies has also been developed for nutrition education and training programmes. A National Nutrition Week is celebrated in the country from 1-7 September every year with a view to create nutritional awareness among the people.

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The Ministry has taken up action programmes for the development and production of low-cost processed nutritious foods like energy foods, ready-to-eat extruded foods, etc. for use in supplementary feeding programmes and meeting the requirements of vulnerable sections of the population. A workshop on "community based production of nutritious foods involving NGOs" was organised in September 1992.

The Food and Nutrition Board of the Ministry was the 'Country Focal Point' for India for the "International Conference on Nutrition" jointly organised by the Food and Agriculture Organisation and the World Health Organisation at Rome in December 1992. The conference was the first inter-governmental meeting on nutrition on a global scale.

SUGAR

Sugar industry is the second largest agro based industry in the country. As on 31 January 1993 there were 414 installed sugar factories in the country as against 138 during 1950-51. Of these 233 are in the cooperative sector.

LICENSING GUIDELINES

Central Government has announced on 8 November 1991 the guidelines for licensing of new units and expansion of the existing sugar factories for the sugar year 1991-92 and the Eighth Five Year Plan (1992-93 to 1996-97). The main guidelines are: (i) new sugar factories will continue to be licensed for a minimum economic capacity of 2,500 tonnes cane crush per day (TCD). There will not be any maximum limit on such capacity. However, in areas specified as industrially backward areas by the Government of India and certified by the Indian Council of Agricultural Research to be agroclimatically suited for development of sugarcane, licensing of new sugar factories in the cooperative and public sectors would be allowed for an initial capacity of 1,750 TCD subject to the condition that the units would expand their capacity to 2,500 TCD within a period of five years of going into production; (ii) licences for new sugar factories will be issued subject to the condition that the distance between the proposed new sugar factory and an existing/already licensed sugar factory should be 25 kilometres. This distance criterion of 25 kms could however, be relaxed to 15 kms in special cases where cane availability so justifies; (iii) The basic criterion for grant of licences for new sugar units would be their viability, mainly from the point of view of cane availability and potential for development of sugarcane; (iv) other things being equal, preference in licensing will be given to proposals from the cooperative sector and the public sector, in that order, as compared to the private sector. In case more than one application is received from any zone of operation, priority will be given to the application received earlier. However, in such cases also, preference will be given to the cooperative sector, followed by the public sector and the private sector, in that order, even though the applications of the first two sectors may be of a later date; (v) priority will continue to be given to sugar factories with capacity less than 2,500 TCD to expand to the aforesaid

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minimum economic capacity and (vi) while granting licences for new units and expansion projects, these additional capacity to be created upto the end of the Eighth Plan will be kept in view.

SUGAR PRODUCTION

The committee constituted to formulate development programme for sugar industry for the earlier Eighth Plan (1990-91 to 1994-95) laid down a target of 114.70 lakh tonnes for 1990-91 season whereas the actual production achieved during the said season was 120.47 lakh tonnes. During 1991-92 season, the committee had laid down a target of 120.66 lakh tonnes, whereas the sugar production for 1991-92 season was 132.77 lakh tonnes (provisional). The consumption of sugar had gone up from 50 lakh tonnes in 1980-81 to 76 lakh tonnes in 1983-84. It increased to 93.33 lakh tonnes in 1987-88 and rose further to 107.15 lakh tonnes during 1990-91 season (October to September).

SUGAR DEVELOPMENT FUND

The Sugar Cess Act, 1982 provides for the imposition of a cess on sugar produced by any sugar factory in India for collection of funds to finance the development of sugar industry in the country. The proceeds of the cess, as reduced by the cost of collection, are credited to a fund known as the Sugar Development Fund. This Fund is applied for the following purposes: (i) making loans for facilitating the rehabilitation and modernisation of any sugar factory; (ii) making loans for undertaking of any scheme for development of sugarcane in the area in which any sugar factory is situated; (iii) making grants for the purpose of any research project aimed at development of sugar industry; (iv) defraying expenditure for the purpose of building up and maintenance of buffer stock of sugar with a view to stabilising price of sugar and (v) defraying any other expenditure for the purpose of the Act.

FOOD PROCESSING

The Ministry of Food Processing Industries, first of its kind in the developing countries, was established in July 1988 to provide a dynamic and synchronised mesh between farmer and industry for better utilisation of agricultural products, more value of rural areas, enhancement of net level of rural produce, incomes and induction of modern technology in food processing industries. Activities within the purview of the Ministry are: (i) fruit and vegetable processing industry; (ii) foodgrain milling industry; (iii) dairy products such as milk powder, infant milk foods, malted milk food, condensed milk, *ghee* etc; (iv) processing and refrigeration of poultry and eggs, meat and meat products; (v) fishing and fisheries beyond territorial waters; (vi) processing of fish; (vii) consumer industries such as bread, breakfast foods, biscuits, confectionery, oilseeds, meat (edible), ready-to-eat foods, etc; (viii) specialised packaging for food processing industries; (ix) alcoholic drinks from non-

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molasses base; (x) beer including non alcoholic beer and (xi) aerated waters/soft drinks. The estimated production of various items during 1991-92 is as follows.

1.	Ready to eat extruded foods	14,500 tonnes
2.	Cocoa products	40,600 tonnes
3.	High protein foods	10,000 tonnes
4.	Soft drinks	249 crore bottles

The Ministry has formulated a package of measures for development of food processing industries which include among others: (a) promoting cottage and small scale industries and rural cooperatives to act as pre-processing centres and independent units; (b) permitting large houses to enter into food processing sector to achieve economies of scale and take care of post harvest losses by forging appropriate backward linkages with growers; (c) granting high-priority sector status to the industry; (d) augmenting extension services and availability of inputs to the growers; (e) considering fiscal incentives in taxes and duties to this sector, improving preservation of raw materials and finished products by encouraging investment in cold storage; (g) promoting export of processed foods by devising concessional freight structure; (h) imparting state-of-the art technology both for capital equipment and process technologies and developing indigenous capabilities through technology adoption and absorption; (i) promoting joint ventures abroad and (j) developing deep-sea fishing and exploiting untapped resources in exclusive economic zone.

FRUIT AND VEGETABLE PROCESSING

India grows a variety of temperate to tropical fruits and vegetables. Processing plays important role in the conservation and effective utilisation of fruits and vegetables. Processing also helps in generating rural employment, besides processed fruits and vegetables are a source of earning foreign exchange. India has favourable climatic conditions and vast potential for growing fruits and vegetables but even less than one per cent of the total production of fruits and vegetables is processed. This is because of a number of problems faced by the industry such as high cost of production, processing, packaging and transportation. The new industrial policy has placed the processed fruits and vetgetables in the list of high priority areas. The total installed capacity of fruits and vegetable processing industry has been increasing steadily and is estimated to be 11.08 lakh tonnes at the end of December 1992 as compared to estimated capacity of 9.50 lakh tonnes at the end of December 1991.

India has developed technology to process all types of fruits and vegetables. The prominent processed items are fruit pulps and juices, fruit based ready-to-serve beverages, canned fruits and vegetables, jams, squashes, pickles, *chutneys* and dehydrated vegetables. More recently products like frozen pulps and vegetables, frozen dried fruits and

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vegetables, fruit juice concentrates and vegetable currys in retortable pouches, canned mushroom and mushroom products have been taken up for manufacture by the fruits and vegetables processing industries.

The Ministry administers the Fruit Products Order 1955 (FPO) issued under the Essential Commodities Act. The Order lays down product specifications and other requirements for quality control on production and marketing of processed fruits and vegetables. Labelling and marketing requirements to protect the consumer interest have also been prescribed under the Order. All processing units are required to obtain a licence which is granted after ascertaining that the premises conforms to the hygienic conditions specified under FPO. Periodical inspections of the units are carried out by the technical staff in order to ensure that the quality specifications and hygienic conditions are maintained. Random samples of processed fruits and vegetables are drawn from the factory to exercise check on quality as per the specifications laid down under the Fruit Products Order. The total number of licensed units under FPO have increased from 3,925 to 4,057 as on 31 December 1992.

The consignment of fruit products intended for exports are subjected to pre-shipment inspection wherein samples are drawn for analysis to ensure conformity to the FPO/buyers specifications. Continuous inspection is also carried out for some products meant for exports to ensure quality according to specifications. Quality certificates are issued to exporters in case samples are found to be conforming to the specifications. As a significant development to promote exports, government has allowed the recognised export houses and star trading houses to export consignments without subjecting to pre-shipment inspection. The impact of this is expected to be positive because exporters have been given the responsibility of maintaining and ensuring the quality of the processed fruits and vegetables exported by them. The main items of exports from our country are mango pulp concentrates, other fruit pulps, pickles, *chutneys*, dehydrated vegetables and canned fruit and vegetables. Exports in the current year are expected to be about 1,20,000 tonnes as compared to 80,300 tonnes during the last year.

The Ministry keeps a close liaison with the Ministry of Health for formulation of standards for the processed fruits and vegetables. Efforts are also made to develop the industry in collaboration with various associations. A close liaison is maintained with the Bureau of Indian Standards, Central Food Technology Research Institute (CFTRI) as well as with the Export Inspection Council. The Ministry utilises the food analysis laboratories of the Department of Food besides the laboratories of CFTRI. The consultancy cell in the Ministry offers provisional certificates for preparations and appraisal certificates for the preparations and appraisal of techno-economic feasibility report for the setting up of fruits and vegetable processing units. The technical officers provide consultancy services on various aspects of the project like raw-material procurements, processing technology, marketing

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details, lay out of factory, details of building and machinery and economic viability.

The Modern Food Industries (India) Limited (MFIL) with its bakery units in 13 cities, provides consumers hygienically prepared bread fortified with vitamins and minerals. MFIL has embarked on expanding its capacity to manufacture bread. It participates in combating malnutrition by supplying special nutritious bread and ready-to-eat extruded food to nutrition programmes of the state governments. Its fruit juice bottling plant produces apple, mango, guava and pineapple juice drinks under the brand name *RASIKA*. MFIL, with a sales turnover of Rs 65.51 crore in 1991-92 employs nearly 2,543 persons. The North-Eastern Regional Agricultural Marketing Corporation (NERAMAC), which was incorporated as a government company in March 1982 with headquarters at Guwahati, provides marketing outlet for horticultural products of the north-eastern region. The Corporation's first major project *viz*, fruit juice concentrate plant in north Tripura was commissioned in June 1988. It processes pineapple and produces pineapple juice concentrate.

FOOD GRAIN MILLING INDUSTRY

A scheme on 'modernisation of single hullers' is being implemented in the states of Andhra Pradesh, Uttar Pradesh, Tamil Nadu, Maharashtra, West Bengal, Orissa, Gujarat, Goa, Haryana, Madhya Pradesh and Karnataka. Under the scheme an amount of Rs 15,000 is being provided to each beneficiary for modernising his unit by installing mini modern rice mill which yields higher out-turn of rice with less broken and by-products like husk and bran could be gainfully utilized. Four rice mill allied and equipment testing centres, one each in southern (Coimbatore), northern (Kanpur), eastern (Kharagpur) and western (Pune) regions have been established to ensure proper quality control and development of modern equipment. Ten regional extension service centres are functioning, one each in Andhra Pradesh, Karnataka, Maharashtra, Madhya Pradesh, Orissa, Tamil Nadu, West Bengal, Gujarat and two in Uttar Pradesh. These centres are engaged in disseminating the advantages of rice mill modernisation and better by-product utilisation.Post Harvest Technology Centre at IIT, Kharagpur and Paddy Processing Research Centre at Thanjavur in Tamil Nadu are engaged in the research and development in applied aspects of paddy processing and by-product utilisation. As a result of modernisation efforts, approximately 55-60 per cent of the total paddy production is now being processed in 32,969 modern rice mills.

The roller flour milling industry is the largest organised sector for utilisation of wheat in the country. After introduction of new industrial policy in July 1991, licensing is abolished for setting up of new roller flour mill or for expansion in the existing capacity of the units except in the following cases: (i) the proposed project is not located within 25 km from the periphery of standard urban area limit of a city having population of more than 10 lakh according to 1991 census and (ii) this condition will not

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apply provided the mills are located within the areas designated as industrial areas by the state government(s) before 25 July 1991.

No licence is required for manufacture of wheat products. There are also no controls on price and distribution of wheat products either. The mills have been given a free hand to obtain their requirements of wheat from any source, thereby avoiding their dependence for the supply of raw materials on government. Nearly 10-11 million tonnes of wheat is converted into various wheat products by about 702 roller flour mills in the country.

DAIRY PRODUCTS

The manufacturing of milk and malted foods is covered under Schedule 27(2) and 27(3) of Industries (Development and Regulation) Act, 1951. The Government in July 1991 has delicensed the manufacturing of these items. Table 18.3 gives production of various milk products.

TABLE 18.3 PRODUCTION OF MILK PRODUCTS

	Products	Production during 1992 (tonnes)
1.	Milk powder/infant milk food	1,65,000
2.	Malted milk/malted food	41,300
3.	Cheese	2,900

POULTRY AND MEAT PRODUCTS

The present level of various types of meat and poultry products is estimated to be approximately 23 lakh tonnes. The percentage of meat from different sources are cattle and buffalos-40 per cent; sheep and goat-26 per cent, poultry-17 per cent; pig-16 per cent; and others-1 per cent. However, slaughter rates in relation to the population of animals are 1.45 per cent in case of cattle, 3.45 per cent in case of buffalos, 32.5 per cent in case of sheep, 35.58 per cent in case of goat and 26.21 per cent in case of pigs. The poultry meat production is gaining ground in the country and it is estimated that at present poultry meat production is about 170 million broilers per annum. The egg production is estimated to be about 21 billion eggs in 1992-93. Most meat purchased by the consumer in the country is in fresh and frozen form and only about one per cent of the meat is converted into value added products. There are about 3,600 slaughter houses and about 150 large and small meat processing units which include seven pork processing units.

In order to augment the meat and poultry production, Government has been providing assistance under its Plan schemes for establishment of various types of meat production units. The export of meat is showing a raising trend. Most meat exported is buffalo meat and total volume of animals exported in 1992-93 has touched Rs 330 crore. The egg processing units are also being set up in the country and few export oriented egg processing units have been approved which are in the process of being set up.

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FISHING AND FISHERIES BEYOND TERRITORIAL WATERS

DEEP SEA FISHING

As early as 1977 the government has declared 200 nautical miles of Exclusive Economic Zone (EEZ) with a view to opening vast vistas for development of marine fisheries. Introduction of deep sea fishing vessels is being encouraged to exploit living resources from over 20 lakh sq km of EEZ. Such vessels (20 mt and above overall length) are pressed into operation through import, indigenous construction, joint venture and leasing.

Government announced a new Deep Sea Fishing Policy in March 1991 which envisages new investment opportunities for the entrepreneurs in regard to joint venture in deep sea fishing with foreign collaboration, leasing of foreign fishing vessels for operation in Indian EEZ and test fishing. Experienced deep sea fishing companies from Thailand, DPR Korea, South Korea, Japan, Denmark, Phillipines and Russia have shown interest for collaboration with Indian companies under the new Deep Sea Fishing Policy. Under the new Policy, Indian companies can be permitted to bring foreign fishing vessels on long term lease for operation in Indian waters. The guidelines for joint ventures involving financial and technical collaboration have also been liberalised. Joint ventures can be established for deep sea trawling, tuna long linning and purse seining and other fishing techniques like, squid jigging, etc. Foreign crew can also be permitted to operate on the fishing vessels. Test fishing for marine resources is also permissible under the new Deep Sea Fishing Policy. The test fishing operations can be done by an Indian company in collaboration with a foreign fishing company which has the requisite experience in this line.

FISHERY SURVEY OF INDIA

Fishery Survey of India (FSI), Bombay is the nodal agency for the survey and assessment of marine fishery resources in the Indian exclusive economic zone. With its headquarters at Bombay, the institute has seven operational bases *viz.* Porbandar, Bombay, Mormugao and Cochin along the west coast, Madras and Visakhapatnam along east coast and Port Blair in the Union Territory of Andaman and Nicobar Islands. The institute has been instrumental in the development of offshore and deep sea fishing in India through experimental and exploratory fishing. During 1992-93 the fishery resources surveys/monitoring surveys were continued and diversified techniques were experimented.

The institute has 12 ocean going survey vessels stationed at the different bases, for survey and monitoring of fishery resources in the EEZ. The surveys were mainly directed on demersal resources in the continental shelf and slope all along the Indian coast and oceanic tunas and allied species in the north-west coast and the EEZ around the Andaman and Nicobar Islands.

The findings of FSI have a major contributory role to the overall growth of marine fishing industry. Considerng the need of diversified fishing for

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growth of fishing industry and optimum exploitation of resources available in the EEZ, the FSI took up/continued diversified fishing in the areas of squid jigging, bottom set longlining, trawling for Cephalopods, trap fishing, etc.during the year. The progress of survey during the period from April to December 1992 target for the period from January-March 1993 and projected achievement for the year 1992-93 are summarised in table 18.4.

TABLE 18,4 ACHIEVEMENTS REGARDING FISHERY RESOURCES

Particulars	Achievement April-Dec. 1992	Target Jan-March 1993	Achievement (1992-93 projected)
1. No. of vessels	12	12	12
2. Days out at sea	1,249	660	1,909
3. Days fished	895	589	1,484
4. Area surveyed (in '000 sq.km)			
(a) Demersal	35	33	68.0
(b) Tuna long lining	48	36	84.0

Scientists of the institute as well as research fellows participated in cruises of survey vessels and collected data on the resources as well as on the biological and oceanographic parameters. The data thus generated are disseminated to the end-users in the form of bulletins, information series, annual report, etc. and also in the form of scientific papers. Important among the publications released during this year are: (a) Fishery Resources of Lakshadweep (bulletin 22 of FSI); (b) Exploratory Squid Jigging in India with notes on biology of squids (bulletin 23); (c) Contributions on Deepsea Fishery Resources in the India EEZ-I (bulletin 24); (d) Remote Sensing of Marine Fisheries; state-of-art cum Indian experience (joint publication of FSI and Space Application Centre, Ahmadabad) and (e) Results of Chartered Fishing Vessels Operation in Indian EEZ (No. 2).

PRICE MANAGEMENT

The overall price and availability situation during 1992-93 (upto 16 January 1993) remained satisfactory. The annual rate of inflation in terms of wholesale price index, which was 13.6 per cent in the beginning of the year 1992-93 declined significantly to the single digit level of 6.8 per cent as on 16 January 1993 as compared to the rise of 13.3 per cent in the corresponding period a year ago. The present softening trend in the movement of prices in general, and essential commodities in particular is characterised by near stability to decline in the recent months. In spite of it being lean supply season, the availability position of rice, wheat, coarse grains, pulses, edible oils etc. is comfortable and there seems to be no prospects of any substantial rise in their prices except a marginal impact on the retail prices of wheat and rice due to revision in the Central Issue Prices of these commodities under PDS recently.

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Government has taken a number of measures to contain the price-sprial of essential commodities. A Cabinet Committee on Prices under the Chairmanship of Union Finance Minister and a Special Action Committee of Secretaries on Monitoring of Prices (SACP) under the Chairmanship of the Cabinet Secretary, Government of India, review the availability, supply and prices of essential commodities on regular basis. Under the direction of these committees, all efforts are made to remove transport bottlenecks and other infrastructural constraints in the speedy movement of coal, raw material of essential commodities and finished products, in order to avoid the shortage of these commodities in several areas.

The Monitoring of Prices and Availability position has been further intensified at various levels by the Central Government and state governments. States/UTs were requested to effectively monitor the prices and availability situation. A control room has been functioning in this Ministryfor the purpose. Similar control rooms have also been set up in Department of Civil Supplies of the state governments and UTs. The Ministry of Civil Supplies and Public Distribution has been monitoring the retail prices of 10 essential commodities on daily basis.

COMMODITY WISE PRICE TRENDS

CEREALS

The wholesale price indices of cereals as sub-group of foodgrains have exhibited a decline of 0.3 per cent during 1992-93 as on 16 January 1993 as compared to significant increase of 29 per cent in the corresponding period a year ago. However, the hike in the Central Issue Prices of wheat from Rs 280 to Rs 330 and rice from Rs 377 to Rs 437 per quintal (for common varieties) with effect from 11 January 1993 has exerted pressure on the wholesale and retail prices of these commodities. The procurement price of paddy and wheat have also been revised upward for the 1992-93 marketing season. The physical stock of foodgrains in the Central account were to the tune of 117.49 lakh tonnes as on 1 January 1993 as compared to 139.02 lakh tonnes in the corresponding period a year ago. The allocation of rice under public distribution system for the calendar year 1992 also remained satisfactory at 108.67 lakh tonnes, as against the allocation of 109.47 lakh tonnes in 1991. The allocation of wheat under PDS remained at 93.06 lakh tonnes compared to the quantity of 104.08 lakh tonnes allocated in 1991.

PULSES

The excess of demand over supply of pulses has marginally pushed up their prices. The wholesale price index of pulses as sub-group moved up by 0.8 per cent during 1992-93 (as on 16 January 1993) as compared to the significant rise of 9.8 per cent registered during the same period of 1991-92. The minimum support prices of pulses have been increased for the 1992-93 season which also put hardening effect on the prices. In order to meet domestic

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requirements of pulses, NAFED has registered the import contracts of pulses to the tune of 3.42 lakh tonnes during 1992-93 (upto December 1992).

EDIBLE OIL

Prices and availability situation of edible oil remained satisfactory during 1992-93 due to record production of edible oilseeds. The Whole Price Index (WPI) of edible oils as sub-group recorded a decline of -1.0 per cent during 1992-93 (upto 16 January 1993) as compared to considerable increase of 9.9 per cent recorded during 1991-92. The allocation of imported edible oils under PDS for November and December 1992 was 15,725 and 300 metric tonnes respectively.

SUGAR

The prices of sugar recorded a moderate increase of 3.4 per cent in terms of wholesale price index during 1992-93 (as on 16 January 1993) as against the significant rise of 9.9 per cent during the corresponding period of previous year. The Government has taken necessary steps to maintain prices at reasonable level in the open market. The availability position of sugar is satisfactory in the open market. During the calendar year 1992, the release of sugar (levy and freesale) was 112.83 lakh tonnes as compared to the level of 115.35 lakh tonnes in the corresponding period of 1991. The closing stock of sugar as on 31 December 1992 stood at 44.85 lakh tonnes as against 36.21 lakh tonnes during the same period of the previous year.

CEMENT

The price indices of cement in terms of WPI have exhibited a significant declining trend at -7.9 per cent during 1992-93 (upto 16 January 1993) as compared to the minor fall of -0.7 per cent registered during the same period of 1991-92. The availability of cement in the open market is satisfactory.

FORWARD MARKET COMMISSION

Forward Market Commission, set up under the Forward Contracts (Regulation) Act, 1952, is a statutory organisation responsible for the administrative and enforcement of this Act. It regulates forward trading in various commodities to which regulatory provisions of this Act have been applied through associations recognised at selected centres for such trading; takes action to curb unhealthy speculation in such regulated forward markets and also keeps a watch over price trends of a number of commodities. It assists states/UTs in enforcement of Governments' policy regarding prohibition or suspension of forward trading in any commodity. The Commission has its head office in Bombay with a regional office at Calcutta.

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PUBLIC DISTRIBUTION SYSTEM

Government is supplying through PDS six key essential commodities, *viz.* wheat, rice, sugar, imported edible oils, kerosene and soft coke at reasonable (below market) rates to consumers, the access to the system being universal. While the Central Government procures/allocates and supplies these commodities to states/UTs., the latter, in turn, are responsible for allocation and distribution within the state/UT and allied implementational activities. The PDS aims at insulating the consumer to a large extent from the impact of rising prices of these commodities and maintaining the minimum nutritional status of our population.The PDS supplies have a stabilising effect on open market prices by increasing availability, alleviating scarcity psychosis and deterring speculative tendencies. Over the years, PDS has become one of the basic features in the Government's policy. Its role as an anti-inflationary measure has also been recognised. The system is designed to help both the producers and consumers, as procurement is linked to purchase and support prices and distribution is made at more or less uniform prices throughout.

The current emphasis of the Government is to strengthen and streamline the PDS in order to improve its reach to the consumers living in areas of relative economic disadvantage. To achieve this objective, Prime Minister formally launched the scheme of revamping of the PDS in identified areas on 1 January 1992 at a function organised in Barmer, Rajasthan. State governments/UT administrations have already initiated a number of steps towards implementation of the scheme. In quantitative terms the proposals are estimated to benefit about 16 crore people living in over 1,700 blocks in the country. The number of additional ration cards to be issued in the identified areas has been estimated at about 26.8 lakh. Over 10,580 additional fair prices shops are to be opened in the identified areas. The additional storage capacity to be created has been estimated at 4.1 lakh MTs. Activisation of local vigilance committees, supply of additional commodities of daily need as per local preference through the PDS outlets and introduction of doorstep delivery from godown to fair price shop wherever feasible are other features of the new scheme. The states and UTs have made commendable progress in achieving the targets set under the programme of revamped PDS. Over 95 per cent of targets have been achieved with regard to setting up of additional fair price shops and issue of additional ration cards. During 1992-93 nearly Rs 8 crore was sanctioned as financial assistance to 11 states/UTs for creation of 49,000 tonnes of godown capacity. Similarly to improve the mechanism of supply of essential commodities in interior areas, about Rs 6 crore was sanctioned to states for purchase of 149 vans.

Pressure on the PDS continued during the year due to higher prices of essential commodities in the open market. Total allocation of rice and wheat (including PDS, JRY etc.) during 1991-92 were 114.23 and 105.70 lakh tonnes as against 97.99 and 95.96 lakh tonnes respectively in the previous year. In order to control sugar prices and ensure its availability at

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reasonable rates to consumers, the Government took a number of measures including increased allocation of levy sugar at the rate of five per cent of the state/UT allocation from August 1991 to March 1993. In addition to it, one lakh tonnes of levy sugar was allocated to the states/UTs during 1992 in proportion to their allocation.

Due to constraints of foreign exchange, edible oils were not much imported during 1991 and thereby the allocation was considerably reduced. Total allocation of imported edible oils during 1991 was at the level of 1.20 lakh tonnes as against 6.52 lakh tonnes in 1990. The lifting by the states/UTs against the allocation during 1991 was 0.98 lakh tonnes as against 5.21 during 1990.

The public distribution system continues to be a major component of our strategy for growth with social justice. The Centre, states and union territories have joint responsibility in making the system a success. The working of the system is periodically reviewed in consultation with state governments and corrective measures taken. At the Centre, an advisory council functions to review its working from time to time. In the states/UTs, consumer advisory committees at district, block and taluka levels oversee the working of the fair price shops. The network of fair price shops has been expanding over the years and in the last eight years their number increased from 3.02 lakh (March 1984) to 4.0 lakh (March 1992). Special emphasis is being laid on opening of fair price shops in remote, far-flung and inaccessible areas, particularly covering tribal population. With a view to ensuring that the essential commodities reach the farthest corners in hilly and inaccessible areas, the Government continued to provide financial assistance to states/UTs enabling them to purchase mobile vans. Such assistance was worth Rs 596 lakh for purchase of 149 vans in 1992-93.

VANASPATI

Vanaspati industry is the second largest agro-based industry, next only to sugar. At present, there are 129 vanaspati units which have been registered with an annual capacity of 22.70 lakh MTs. Out of these, 114 vanaspati units have been installed with an annual capacity of 18.03 lakh MTs. The production of vanaspati during the oil-year (November-October) 1991-92 was 8.57 lakh MTs. Vanaspati capacity is also partly utilised for the manufacture of margarine, bakery shortening, refined oil for direct consumption and industrial hard oils for soap purposes. Vanaspati industry has been delicensed with effect from 25 July 1991 subject to certain locational restrictions. Government is giving some fiscal incentives in the form of excise rebate for the utilisation of non-conventional solvent extracted oils to be used in the manufacture of vanaspati.

SOLVENT EXTRACTED OILS

The Solvent Extracted Oil, De-oiled Meal and Edible Flour (Control) Order, 1967, was promulgated in March 1967 under the Essential Commodities Act,

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1955. About 836 licences for the manufacture of solvent extracted oils have been issued upto October 1992. Production of these oils increased from 4.37 lakh tonnes in the oil year 1985-86 to about 9.8 lakh tonnes in the oil year 1991-92. Certain fiscal incentives are also provided with a view to augmenting production of non-conventional minor oils.

OILS

Oils from oil bearing materials are obtained by crushing of the oil bearing materials or by solvent extraction or by both. Oil obtained from oil bearing materials by method of crushing is generally known as expeller oil. The overall capacity of oilseeds crushing industry, both in the organised and in small scale sectors, is estimated at around 300 lakh tonnes in terms of seeds. The system of crushing in the organised sector is mostly by expellers. The oil content in the cake from expellers is generally around six to eight per cent. Crushing of four major oil seeds namely mustard, rapeseed, groundnut and sesame has been reserved for small scale sector and for oil seeds growers' cooperatives and state agro cooperatives. In terms of liberaralised industrial policy of Government of India no licence is required for activity relating to processing of vegetable oils provided, the proposed article of manufacture is not reserved for small scale sector and the proposed project is not located within 25 kms from the periphery of the standard urban area limits of a city having a population of more than 10 lakh according to 1991 census. In order to increase the overall availability of oils of consumers' choice at lower prices and to improve their marketability for direct consumption, manufacturing and marketing of a mixture of any two edible vegetable oils has been allowed.

Because of the sustained efforts, there has been significant increase in the net domestic availability of edible oils from 52.40 lakh MT in 1991-92 to about 61 lakh MT in 1992-93. No less important has been the contribution of oils from non-traditional sources namely ricebran, cottonseed, oilseeds of tree and forest origin, oilcakes and copra. The annual growth rate has been broadly of the order of 8 to 10 per cent. At present its share in the total vegetable oil production estimated to be 71 lakh MT is around 23 per cent. Government. has allowed liberal blending of any two edible oils. This is expected to lead to a more integrated and competitive domestic oil market.

EDIBLE OILS

Oil and fats are considered essential food items for a wholesome diet. The Ministry of Civil Supplies, Consumer Affairs and Public Distribution is responsible for integrated management of supply, price and distribution of vanaspati, vegetable oils and fats. The overall objective is to ensure availability of appropriate quantity of edible oils at reasonable prices to consumers and safeguarding the interest of producers to achieve self-sufficiency in edible oils in the shortest possible period.

Since there has been a continuous gap between demand and supply for a number of years, the country had to resort to import of edible oils to meet

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the shortfall. However, on account of concerted efforts of the Government, the production of edible oilseeds/oils had increased steadily and this has lessened the country's dependence on import of edible oils in the recent years despite considerable increase in demand due to growth in population coupled with improvement in the standards of living of people. The import of edible oil has come down from over 18 lakh tonnes during the oil year 1987-88 (November-October) (entailing expenditure of foreign exchange to the tune of Rs 1060.90 crore) to 2.15 lakh tonnes (of the value of Rs 177.71 crore) in the oil year 1991-92.

With the reduction in import, the operation of edible oils under the public distribution system has decreased proportionately. As against the allocation of 6.63 lakh MTs of edible oil to the states/UTs for PDS during the oil year 1989-90, allocation for the years 1990-91 and 1991-92 was 1.54 lakh MTs and 1.20 lakh MTs respectively. Similarly, lifting of allocated oils also came down from 5.07 lakh MTs in the oil year 1989-90 to 1.60 lakh MTs and 0.86 lakh MTs during the oil years 1990-91 and 1991-92 respectively.

During the oil year 1992-93 (upto 31 January 1993), a negligible quantity of about 12,000 MTs. of edible oils (Palmolein) has been imported.

HINDUSTAN VEGETABLE OILS CORPORATION LTD.

The Hindustan Vegetable Oils Corporation Ltd (HVOC), a public undertaking, was incorporated in March 1984 with the merger of two nationalised companies namely Ganesh Floor Mills and Amritsar Oil Works. The Corporation is engaged in the production and distribution of vanaspati, refining of edible oils, packing of imported edible oils and production of breakfast food items like oats, and cornflakes and ready-to-eat snacks. It has nine manufacturing units spread all over the country. The authorised capital of the Corporation is Rs 10 crore while paid-up capital stood at Rs 7.71 crore. In 1991-92 HVOC had a turnover of Rs 182 crore as compared to Rs 326.23 crore during 1990-91. The Corporation incurred a loss of Rs 4.57 crore in 1992-93 as against the profit of Rs 1.79 crore during 1991-92.

In order to improve its performance the Corporation started marketing '*Shankh*' brand refined edible oils and *Champion* vanaspati from January 1991. This effort of the Corporation has however, not been successful because of stiff competition in the market. The Corporation has pruned its administrative expenses which has resulted in a saving of about Rs 91 lakh.

CONSUMER COOPERATIVES

In the recent years consumer cooperatives have emerged as a strong institutional framework in the distributive trade and have become an integral part of the public distribution system, providing the essential consumer articles to vast sections of the country's population, particularly to the vulnerable sections of the society. A national policy for cooperatives has been formulated

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aiming at development of the cooperatives as self-reliant grass-root democratic institutions owned, managed and controlled by members for their economic and social upliftment. Various steps have been initiated to strengthen and revitalise the cooperative movement, with the aid of a model legal framework, both of the state and the national levels.

During the Eighth Five Year Plan, it is proposed to strengthen the consumer movement further and to expand its coverage in distributive trade, so as to reduce regional disparities by imparting a new direction. Its reach is proposed to be extended to the block and Tehsil/Taluka areas. Consumer cooperatives create a radiating impact on the market in stablising the price line as well as in exercising a greater control over quality of articles and ensuring easy availability. Super Bazar, Delhi, *Apna Bazar*, Bombay, Triplicane Urban Consumer Store, Madras, Wholesale Store, Calcutta, *Janta Bazar*, Kolhapur and in rural areas *Warna Bazar, Azinkya Bazar*, Shendre, *Janta Bazar*, Raigarh may be cited as leading examples.

As on 3 March 1992 there were 26,505 primary consumer cooperative stores at the village level, 605 central/district wholesale consumer societies at the district level, 30 state level consumer federations/state marketing-cum-consumer federation and a National Consumers Cooperative Federation (NCCF) existing at the apex level. They had 50,159 retail outlets in the urban areas. It is estimated that consumer cooperatives in urban areas achieved a sales turn-over of Rs 3,300 (tentative) crore by the end of 1992-93.

At the national level the apex consumer cooperative institution, the NCCF was set up in 1965 with the objective of providing supply support and promotional and technical guidance/assistance to the consumer cooperative movement. The federation has 108 members.

Super Bazar, the Cooperative Stores Ltd., New Delhi was established in 1966 with the objective to check the price rise and establish fair trade practices with a view to ensure supply of daily needs to the common consumer in the Union Territory of Delhi. The Super Bazar operates through five regional distribution centres, 148 branches, including 15 retail drug outlets and 37 mobile van shops including fruits and vegetable vans. There has been a spectacular growth of sales turnover of Super Bazar. The total sales turnover, which amounted to only Rs 4 crore in its first year of its working has increased to Rs 97.82 in 1991-92. As on 31 March 1992 it had a total membership of 32,022 and a total paid-up capital of Rs 152.02 lakh of which Government's contribution stands at Rs 128.70 lakh.

Financial assistance by way of margin money to the primary agricultural cooperative societies (PACS); large sized multi purpose societies (LAMPS) and farmer service societies (FSS) to undertake distribution of consumer articles in rural areas was provided by the Government under a Centrally sponsored scheme implemented through the National Cooperative Development Corporation (NCDC). The scheme has since been transferred to state sector with effect from 1 April 1992. There are around 82,905

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primary cooperative societies in the rural areas. Half of these societies are actively involved in distribution of consumer commodities in rural areas

CONSUMER PROTECTION

Government accords high priority to consumer protection. The Ministry of Civil Supplies, Consumer Affairs and Public Distribution, as a nodal Ministry in matters relating to consumer affairs, has initiated a number of measures to promote a broad-based and responsive consumer movement. These measures include use of mass media for education and information to consumers, involvement of increasing number of consumer organisations in taking up the cause of consumers and coordinating steps taken by the states/UTs, ministries and departments.

LEGISLATION

In December 1986, seven major consumer protection legislations, namely, the Essential Commodities Act, 1955; the Prevention of Food Adulteration Act, 1954; the Drug and Cosmetics Act 1940; the Monopolies and Restrictive Trade Practices (MRTP), Act, 1969; the Agriculture Produce (Grading and Marking) Act, 1937; the Standards of Weights and Measures Act, 1975 and the Standards of Weights and Measures (Enforcement) Act, 1985 were amended to empower consumers and registered consumers organisations to file complaints in court, which hitherto were vested with Government officials only.

CONSUMER PROTECTION ACT, 1986

Government has enacted a comprehensive consumer protection legislation, namely, the Consumer Protection Act, 1986, to safeguard consumer interests. All the provisions of this Act came into force from July 1987. The Act applies to all goods and services unless specifically exempted by the Central Government. It covers public, private, joint and cooperative sectors. The Act provides for setting up consumer protection councils in the Centre and the states. It enshrines rights of consumers such as right to safety, right to be informed, right to consumer education, etc. The Act also provides for setting up of three-tier quasi-judicial machinery at the district, state and national level to provide speedy and inexpensive redressal for consumers grievances. The Consumer Disputes Redressal Forum (District Forum) consists of three members including a person who qualifies to be district judge as its President. It entertains complaints, where value of goods or services and compensation, if any, claimed does not exceed rupees five lakh. The State Consumer Disputes Redressal Commission (State Commission) consists of three members including a person who is or has been a judge of a High Court as its president. It entertains complaints where value of goods or services and compensation, if any, claimed is more than rupees five lakh and upto Rs 20 lakh. The National Consumer Disputes Redressal Commission (National

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Commission) consists of five members, including a person who is or has been a judge of Supreme Court. It entertains complaints where the value of goods or services and the compensation, if any, claimed is above Rs 20 lakh.

The Central Government constituted the first Central Consumer Protection Council on 1 June 1987. This Council has since been reconstituted with effect from 23 August 1990 for a period of three years. Thirtyone state commissions and 452 district forums are functioning in the country.

AMENDMENT OF THE ACT

On the persistent demand from consumer organisations, a high power Working Group was set up to suggest suitable amendments to the Consumer Protection Act, 1986 to make it more effective and purposeful. The recommendations were discussed in the meetings of Central Consumer Protection Council, Committee of Secretaries and with a number of ministries/departments. The Ministry introduced the Consumer Protection (Amendment) Bill, 1993 in Rajya Sabha on 31 March 1993. But it could not be taken up for consideration due to paucity of time. With a view to give immediate benefit of these amendments to the consumers, the Government promulgated an Ordinance on 18 June 1993. The Ordinance has since been replaced by an Act of the Parliament on 27 August 1993. The salient features of the Amended Act are: (i) to enlarge the coverage of the Act by way of including complaints relating to restrictive trade practices and agreements; and consumers who buy goods for earning their livelihood by means of self-employment; complaints against goods which are hazardous to life and safety of the consumers and where information has not been given about the contents, usages and effect of the goods in accordance with the law; (ii) specifically the "service" relating to housing construction under the Act; (iii) file class action complaints on behalf of consumers having the same interest; (iv) to provide for selection committees for the selection of non-judicial members of the National Commission, the State Commissions and the District Forums; (v) monetary jurisdiction of District Forums/ State Commissions/National Commission increased; (vi) to confer additional powers on the consumer disputes redressal agencies such as to award costs to the parties, to order removal of defects or deficiency from the service, and powers to recall goods likely to endanger the safety of the public; (vii) to provide to award punishment to the complainant in case of frivolous or vexatious complaints and (viii) to provide for a limitation period of two years for filing the complaints etc.

CONSUMER WELFARE FUND

Ministry of Finance, Department of Revenue has passed the Central Excise and Customs Laws (Amendment) Act, 1991, which provides for creation of Consumer Welfare Fund wherein the amount of excess excise/ custom duties which are not refundable to manufacturer or importer, shall be credited and the money from this Fund will be used for promoting the welfare of consumers. The rules for operating this Fund have been framed. Thereafter on

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the recommendations of the Central Consumer Protection Council a Working Group was constituted to suggest suitable guidelines for utilising this Fund. The report of the Working Group was discussed in the XIII meeting of the Central Consumer Protection Council. The Working Group has recommended the exclusion of individual consumers and industry from getting assistance from the Fund. It has also recommended priority areas and procedure to be followed for considering complaints etc. Now, Ministry of Finance is amending the Consumer Welfare Fund Rules as per the recommendations of the Council. So far, more than rupees seven crore have been credited to the Fund.

PUBLICATIONS

The Ministry of Civil Supplies, Consumer Affairs and Public Distribution has brought out a number of booklets/brochures to educate consumers such as 'Help Prevent Adulteration', 'Salient Features of the Consumers Protection Act, 1986,' 'Directory of Voluntary Consumer Organisations' 'Shopping of Packaged Commodities', 'Rights of Consumers' and 'Consumer Protection and Weights and Measures'. A quarterly journal entitled *Upabhokta Jagran* is also being published regularly.

NATIONAL AWARDS

The Ministry of Civil Supplies, Consumer Affairs and Public Distribution has instituted two national awards on consumer protection. The *National Youth Award for Consumer Protection* carries three prizes of Rs 20,000, Rs 15,000 and Rs 10,000. Youth including women in the age group of 15-35 who have done outstanding work in the field of consumer protection are eligible for the award. National Award on Consumer Protection carries three prizes of Rs 50,000, Rs 40,000 and Rs 30,000. Voluntary consumer organisations doing outstanding work in the field of consumer protection are eligible for it.

AUDIO VISUAL MEASURES

Doordarshan is telecasting a regular fortnightly programme in the field of consumer protection. The Ministry is also broadcasting a weekly programme entitled *Apne Adhikar* from all the commercial broadcasting stations of AIR. The main aim of these programmes is to disseminate useful information to consumers on various aspects of consumer protection. Ministry has prepared one film documentary, one video documentary and a few video quickies in the field of consumer protection.

CONSUMER DAY

Consumer Day is observed every year on 15 March all over the country. The main thrust is to generate awareness in consumers about their rights and how to exercise them. On this occasion, exhibitions, seminars etc., are held throughout the country to provide information to consumers about various measures available to them to protect their rights against evils of adulteration,

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short weights and measures and other unfair trade practices and quick, simple and inexpensive legal remedies available under the Consumers Protection Act. Considering the needs of consumers, Government is regulating the quality of item of mass consumption or those involving safety and health of consumers under the BIS certification marks scheme.

UNDP ASSISTANCE

The Ministry of Civil Supplies, Consumer Affairs and Public Distribution has entered into agreement with UNDP to provide assistance to a consumer organisation namely CERC, Ahmadabad to set up a laboratory to undertake comparative testing in food items, pharmaceuticals and domestic electrical appliances.

STANDARDIZATION AND QUALITY CONTROL

The Bureau of Indian Standards (BIS), the national standards body of India is engaged *inrer-alia* in harmonious development of the activities of standardization, marking and quality certification. BIS has a strong network of offices for effective surveillance of certification and promotion of standardization. The Bureau of Indian Standards is developing Indian standards covering important segments of economic activity and is serving the industry in upgrading their quality and the government to base their purchases on them. The Bureau has an active support of over 40,000 technical experts as members of committees engaged in the formulation of Indian standards in different technological areas. The task of formulating standards is organized through 15 technical divisions of the BIS. As on 31 January 1993, 16,026 Indian standards were in force. The ultimate and the highest goal of standardization effort is to achieve international accord on all technical questions which are related to the exchange of goods and services between one nation and the other. This had led to emphasise shifting from national standards to international standards and BIS has taken conscious decision to harmonize national standards with international standards, wherever feasible. The BIS quality certifictation scheme directed towards protecting the consumer interset and providing a catalytic effect on industries to come upto the standards has brought over 1400 items and over 7,000 factories under its fold. Items affecting health and safety of consumers have been enforced through compulsory certification. The number of licences in operation as on 31 January 1993 was 11,582.

India has also joined the International Certification Quality Assessment System for Electronic Components (IECQ) and system for conformity testing to standards for safety of electrical equipment (IECEE) to give boost to its export. Components' equipments certified under these systems in India could be sold in the world market without the need for further testing and inspection. Quality systems, a new concept is gaining momentum the world over and is a vital step towards improving quality at enterprise level and increasing international competitiveness. BIS is operating quality system

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certification in the country. Also Government has introduced Rajiv Gandhi National Quality Award for excellence in quality to be operated by BIS.

Laboratory testing being the mainstay for standards formulation and certification has received special attention. The laboratory network has been strengthened to take up testing of more products. BIS laboratories test around 40,000 samples per year. BIS has established a network of testing laboratories. It also makes use of a large number of public and private laboratories in the country for testing of samples. A concerted effort has been made to spread the message of standardization and quality culture in the country. To give thrust to standardization, certification, product testing and quality improvement, 21 state level committees on standardization and quality systems have been set up by states and union territories. For promotion of standardization and quality systems, BIS organizes programmes on company standardization, implementation conferences, industrywise conferences and educational utilization of standards. About 50 such programmes are organized in a year.

STANDARDS OF WEIGHTS AND MEASURES

One of the important reforms undertaken in the country after Independence was the unification of the system of weights and measures. Uniform standards of weights and measures based on the metric system were established under the Standards of Weights and Measures Act, 1956. Standards established by this Act were enforced in accordance with the provisions of laws adopted by states for the purpose. States also created a suitable machinery for enforcement of these laws. The Weights and Measures Unit in the Ministry of Civil Supplies, Consumer Affairs and Public Distribution is the nodal agency for all activities relating to the subject.

In order to establish international system of units, align our laws with international practices and remove certain deficiencies, a comprehensive legislation, namely, the Standards of Weights and Measures Act, 1976, replaced the 1956 Act. The new Act contains, among other things, provisions for regulation of pre-packed commodities, which are intended to establish fair trading and price discipline for commodities sold to consumers in packaged form. Provisions of the Act relating to packaged commodities and relevant rules, namely, the Standards of Weights and Measures (Packaged Commodities) Rules, 1977 are in force since September 1977. According to these provisions, every package intended for retail sale is required to carry information as regards name of the commodity, name and address of manufacturer or packer, net quantity, month and year of manufacture/packing and retail sale price. Mandatory declaration of retail sale price which is inclusive of all taxes, on the package prohibits retail dealer from charging more than the declared price and protects consumers against arbitrary charging.

A Standing Committee has been constituted to examine the standard pack sizes and various exemptions given to certain commodities. The trade

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and industry, concerned ministries, consumer organisations, standards institutions and other concerned organisations are consulted from time to time for finalising amendments to make these rules more effective and practical.

Under the provisions of the 1976 Act, all new types of weighing and measuring should be examined by the approved laboratories and their model should be approved before commencing the production. The Rules, namely the Standards of Weights and Measures (Approval of Model) Rules, 1987 have been in force since 1987. The Ministry is receiving application for model approval and started notification of approved models from 1992. The other rules framed under the Act of 1976 are: (i) The Indian Institute of Legal Metrology Rules, 1980; (ii) The Standards of Weights and Measures (Inter-State Verification and Stamping) Rules, 1987; (iii) The Standards of Weights and Measures (Numeration) Rules, 1987; (iv) The Standards of Weights and Measures (National Standards) Rules,1980 and (v) The Standards of Weights and Measures (General Rules, 1987).

The Fortysecond Amendment of the Constitution brought the subject of enforcement of weights and measures, in the Concurrent List. To ensure uniformity in matter of enforcement in the country, a Federal Act, namely the Standards of Weights and Measures (Enforcement) Act, 1985 was brought into force. It contains provisions for effective legal control on weights, measures and weighing and measuring instruments used in commercial transaction, industrial production and protection of public health and human safety. A uniform draft rule circulated by this Ministry has been notified by most of the states. A few states are in the process of changeover.

Both the Acts of 1976 and 1985 have been amended to confer rights on the aggrieved consumer or recognised consumer association for filing complaints to be taken cognizance of by courts.

India is a member of the International Organisation of Legal Metrology which was set up with a view to realising worldwide uniformity in laws relating to legal metrology (weights and measures) to make international trade smooth and practical.

The Indian Institute of Legal Metrology, Ranchi, under the Ministry of Civil Supplies, Consumer Affairs and Public Distribution imparts training in legal metrology and allied subjects. Apart from the enforcement officials from states, nominees from many developing countries are attending and being benefitted.

The Ministry has also set up three Regional Reference Standards Laboratories at Ahmadabad, Bhubaneswar and Bangalore. Legal standards of the states are calibrated in these laboratories. They also provide calibration service to the industries in their respective regions. They are among the approved laboratories for conducting the model approval tests on modern weighing and measuring instruments.

The Government of India Mint, Bombay, undertakes manufacture of standards and caters to the needs for standards not only to states/UTs but also to several other developing countries.

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The National Physical Laboratory, New Delhi have been made custodian of the national standards of the mass and length. They are also made responsible for realising the physical representation or phenomenon which are to be national standards for other units.

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19 Energy

ENERGY is a key input in economic growth and there is a close link between the availability of energy and the future growth of a nation. However, in a developing country like India greater the availability of energy the more is its shortage. This is obvious from the fact that in spite of the phenomenal increase in energy production between 1950-51 and 1991-92, 42 fold increase in production of electricity, six fold increase in production of coal and 130 fold increase in production of crude oil still leaves a gap of seven per cent energy shortage, 17.8 per cent peak shortage; and there is a need to import 26.75 million mt of crude oil and petroleum products and 4.5 million mt coal per year. Consumers of energy encompass all sectors of the economy and all sections of the society. Industrial sector, however, is a vital sector of our economy and also the largest consumer of electricity.

Energy is consumed in a variety of forms in India. Fuelwood, animal waste and agricultural residues are traditional sources of energy that continue to meet the bulk of the energy requirement in the rural areas. These 'non-commercial fuels' are gradually getting replaced by 'commercial fuels' such as coal, lignite, petroleum products, natural gas and electricity. India's per capita consumption of commercial energy at 208 kg oil equivalent units is only one-eighth of the world average. However, the growth in energy intensity of Indian economy is extremely high while energy efficiency is low. The energy policy so far has laid emphasis on expansion of capacity to meet the increased demand. The past trend in sectoral energy consumption brings out that after industry, transport sector is the main consumer of commercial energy especially of petroleum products which have to be imported in increasing quantities.

During 1992-93, import of about 39.47 million tonnes of crude oil and petroleum products are estimated. Thus, there is a need to contain the consumption of petroleum products through energy demand management. The total requirement in the economy is likely to double between 1986 and 2004. The share of commercial energy in total energy consumption will increase from 42.7 per cent in 1986 to 74 per cent in 2004.

Studies have shown that while the demand for electricity in the entire economy has risen at the rate of 9.73 per cent during 1980-87, the demand in the residential and agriculture sector has risen at an alarming rate of 14.03 per cent and 14.58 per cent respectively per year. Considering that majority of the pumpsets, appliances and equipments used in these two sectors are highly energy inefficient, there is a clear need to focus attention

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on energy inefficient pumps and electrical appliances and devices. Under the circumstances, energy efficiency/conservation remains the only viable alternative.

During the Eighth Plan period, the Government besides consolidating the gains of the efforts made during the Seventh Plan has decided to ensure the adoption of energy audit recommendations to bring results, to improve efficiency of domestic electric appliances, to improve efficiency of existing agricultural pumpsets and to instal inherently efficient new pumpsets to promote fuel efficient engines and motors in both agricultural and transport sectors, to make sustained efforts towards peak demand management, to encourage the co-generation of electricity and steam in the related industries like sugar, paper etc. Thus the increase in energy generation will be supplemented by the energy conservation efforts.

As regards energy conservation, thrust of the strategy is to intensify awareness on energy conservation by making the various sectors of the economy aware of the need through energy audits and to encourage them to implement the recommendations of these audits wherever possible. It is intended to achieve 5000 mw power during the Eighth Plan period.

POWER

Electricity is the most convenient and versatile form of energy. Demand for it, therefore, has been growing at a rate faster than other forms of energy. Power industry too has recorded a phenomenal rate of growth both in terms of its volumes and technological sophistication over the last few decades. Electricity plays a crucial role in both industrial and agricultural sectors and, therefore, consumption of electricity in the country is an indicator of productivity and growth, in view of this, power development has been given high-priority in development programmes. For the year 1992-93, a target of 4,458.02 mw has been fixed. The details are given below.

	Central	State	Private	Total
Hydro	540	321.10	18	879.10
Thermal	1,920	1,438.92	-	3,358.92
Nuclear	220	-	-	220.00
All India	26,802	1,760.02	18	4,458.02

The additional capacity expected during the Eighth Plan is 30,538 mw, with the following break-up : (a) Central Sector (Inclusive of Nuclear Power Corporation and Neyveli Lignite Corporation) is 12,858 mw and (b) State sector (inclusive of 2,810 mw in private sector) is 17,680. The total public sector Eighth Plan outlay for power is Rs 79,589.32 crore as indicated in the Eighth Plan document by the National Development Council. The break-up is as follows: (i) Centre (inclusive of NPC and NLC)—Rs 31,181.58 crore (ii) State - Rs 48,407.74.

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POWER GENERATION

Installed power generation capacity in the country has increased from a meagre 1,400 mw in 1947 to 69,065.19 mw at the end of 1991-92. With the anticipated addition of 3,402.42 mw during 1992-93, the installed capacity in utilities by the end of March 1993 is likely to be 72,151.11 kw which also takes into account deletion/retirement of old units. The actual capacity addition during 1992-93 (upto the end of January 1993) however, has been 2,157.55kw. The achievement of thermal capacity addition during the Seventh Plan was 17,093.00 kw

The target of power generation during 1992-93, is 302.7 billion units out of which 229.05 billion units are programmed for generation by thermal stations, 66.3 billion units by hydro stations and 7.35 billion units by the nuclear stations. This envisaged an increase of about 5.6 per cent over the generation achieved during 1991-92.

ORGANISATION

The subject 'power' appears in the Concurrent List of the Constitution and as such the responsibility of its development lies both with the Central and state governments. At the Centre, the Ministry of Power is responsible for the development of electrical energy. The Ministry is concerned with policy formulation, perspective planning, processing of projects for investment decisions, monitoring of projects, training and manpower development, administration and enactment of legislation in regard to power generation, transmission and distribution. The Ministry is also responsible for the administration of the Electricity (Supply) Act, 1948, and the Indian Electricity Act, 1910 and undertake such amendments as may be necessary from time to time in conformity with the government's policy objectives. The Electricity (Supply) Act, 1948 forms the basis of the administrative structure of the electricity industry. The Act provides for the setting up of a Central Electricity Authority (CEA) with responsibility, *inter-alia* to develop a national power policy and to coordinate the activities of various agencies and State Electricity Boards. The Act was amended in 1976 to enlarge the scope and functions of the CEA and to enable the creation of companies for generation of electricity.

Central Electricity Authority advises Ministry of Power on technical, financial and economic matters. Construction and operation of power generation projects in the Central Sector are entrusted to Central Power Corporations, namely, National Thermal Power Corporation (NTPC), National Hydro-Electric Power Corporation (NHPC) and North Eastern Electric Power Corporation (NEEPCO) under the administrative control of the Ministry of Power. The Power Grid Corporation (erstwhile Power Transmission Corporation) will be responsible for construction and operation of transmission projects in the Central Sector and also for the formation of national power grid. The Damodar Valley Corporation (DVC) constituted under the DVC Act, 1948 and the Bhakra Beas Management Board (BBMB) constituted under the Punjab Reorganisation Act, 1966, are

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also under the administrative control of the Ministry of Power. In addition, the Ministry administers Beas Construction Board (BCB), which is a construction agency and two training and research organisations, namely Central Power Research Institute (CPRI) and Power Engineers Training Society (PETS). Programmes of rural electrification are within the purview of Rural Electrification Corporation (REC) which is a financing agency. The Power Finance Corporation (PFC) provides term-finance to projects in the power sector. There are two joint venture power corporations under the administrative control of the Ministry of Power, namely, Nathpa Jhakri Power Corporation and Tehri Hydro Development Corporation, which are responsible for the execution of the Power Project and Hydro Power Complex respectively. Energy Management Centre, an autonomous body, is responsible for training, research and information exchanges between energy professionals. It is also responsible for formulating programmes for energy conservation. To deal with matter relating to and promoting of private sector participation in power generation, supply and distribution, an Investment Promotion Cell has recently been set up in the Ministry of Power.

NATIONAL AND REGIONAL POWER GRID

Significant progress has been made in expansion of transmission and distribution facilities in the country. Total length of transmission lines of 66 kv and above voltage level increased from 10,000 ckt km in December 1950 to about 2.18 lakh ckt km in March 1992. Highest transmission voltage at present is 400 kv and about 26,000 ckt km of 400 kv lines had been constructed upto March 1992. In addition, the first ± 500 kv HVDC bipole Rihand-Dadri transmission line of about 820 km length is also in operation. An inter-regional link (Vindhyachal 2 x 250 mw HVDC back to back) connecting western and northern regions is also in operation.

Fairly well inter-connected systems at voltage of 220 kv with progressive overlay of 400 kv are presently available in all the regions except in north-eastern region. With the creation of National Thermal Power Corporation and National Hydro Electric Power Corporation in 1975, the Centre had started playing an increasingly larger role in the development of grid systems. The 400 kv transmission systems constructed by these organisations as part of their generation projects, alongwith well-knit regional grid system and 400 kv interstate and suitable asynchronous HVDC links between the regions would eventually form the part of National Power Grid. Power Grid Corporation of India Limited (POWER GRID) has been created with a view to Centrally own, operate and maintain National Power Grid. The POWER GRID has already taken over the transmission systems of NTPC, NHPC, NEEPCO, NLC and NPC. Establishment of National Power Grid is an evolutionary process. National Power Grid will promote integrated operation and transfer of power from one system to another with ultimate objective of ensuring optimum utilization of available resources in the country.

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RURAL ELECTRIFICATION

Rural electrification schemes are financed by state governments as well as Rural Electrification Corporation. At present 4.88 lakh villages have been electrified and about 96 lakh pumpsets energised representing 84 per cent of the total villages. Target for electrification and energisation of pumpsets for 1992-93 was 4240 villages and 2,56,750 pumpsets. Upto 30 November 1992, 1,086 villages were electrified and 1,97,040 pumpsets energised. Electrification of tribal villages and *harijan bastis* was also given special attention. Of a total of 1,11,886 tribal villages 75,617 had been electrified and street lighting facility extended to 2.50 lakh harijan bastis by October 1992.

REGIONAL ELECTRICITY BOARDS

In order to promote integrated operation of power systems, the country has been demarcated into north, west, south, east and north-east. Regional electricity boards were set up in 1964 in each of these regions. Northern region covers Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh, Chandigarh and Delhi; western region covers Gujarat, Madhya Pradesh, Maharashtra, Goa, Daman and Diu and Dadra and Nagar Haveli; southern region covers Andhra Prdesh, Karnataka, Kerala, Tamil Nadu and Pondicherry; eastern region covers Bihar, Orissa, West Bengal and Sikkim and north-eastern region covers Assam, Manipur, Meghalaya, Nagaland, Tripura, Arunachal Pradesh and Mizoram.

REGIONAL LOAD DESPATCH CENTRES

To coordinate operations of the grids of the constituent power systems and to optimize utilisation of the existing generation capacity Regional Load Despatch Centres (RLDCs) have been set up in each region which function under the regional electricity boards. The Central Electricity Authority exercises overall supervision over the RLDCs.

In the northern, western and eastern regions permanent RLDCs equipped with computer based telemetry and data acquisition systems have already been established. In the southern region, RLDC equipped with analog telemetry equipment, mimic board, recorders, speech communication, telex and teleprinter facilities is working. A unified scheme covering the long term requirements of RLDC and constituent systems, submitted by POWERGRID Corporation of India Limited was being processed for techno-economic clearance of the Central Electricity Authority. In the north-eastern region, an interim Regional Load Despatch Centre is operating. A proposal to set up a permanent RLDC with modern facilities in the North-Eastern Region is also under finalisation and is expected to be taken up during the Eighth Plan. Plans for meeting the long term requirements of northern region were also under formulation.

TELECOMMUNICATION FOR POWER SECTOR

Efficient operation of integrated power systems through modernised computer-based load despatch centres is vitally dependant on efficient data

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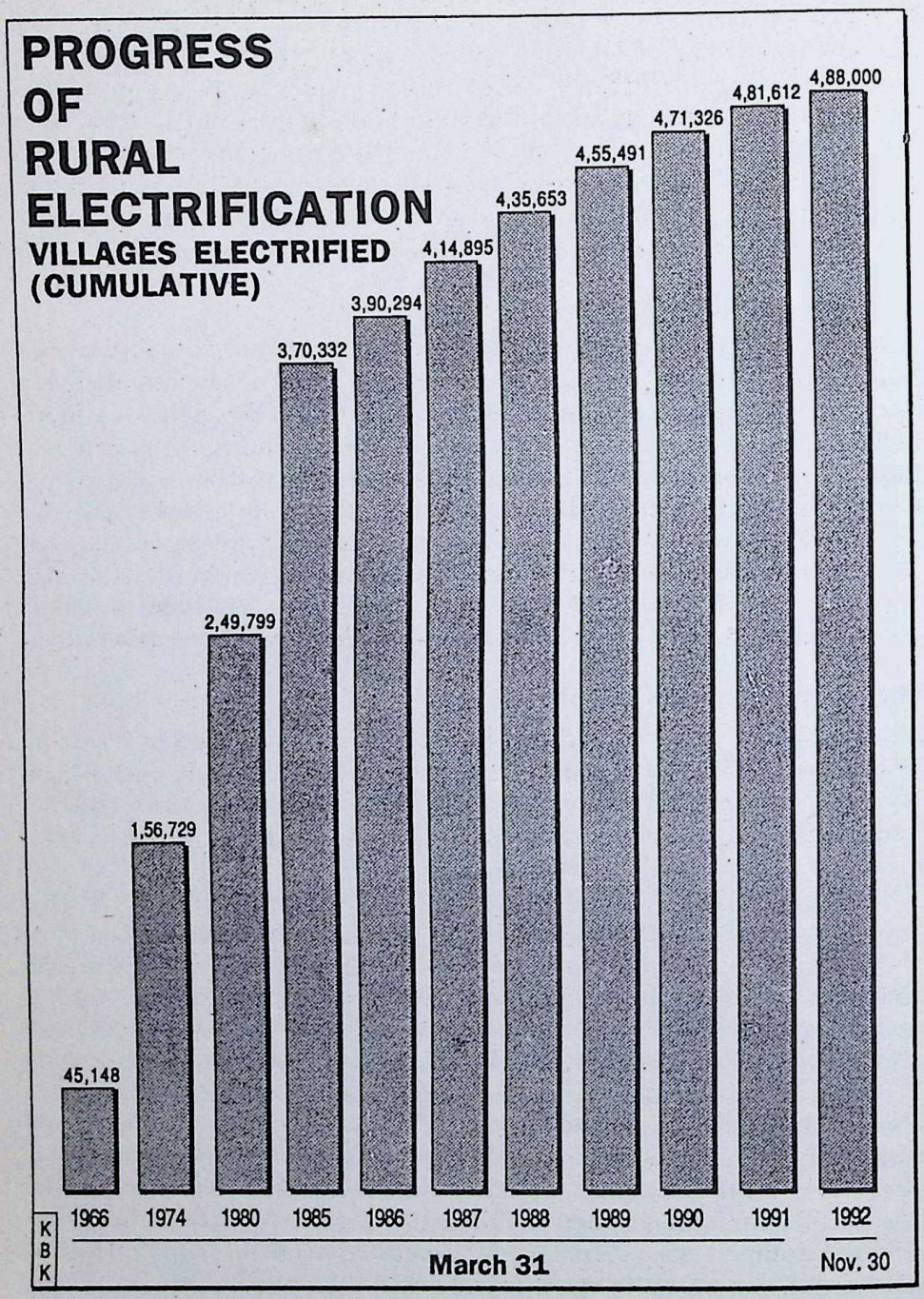

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transfer over long distance. This has established need for developing a highly reliable communication network. Subsequent to an indepth analysis of requirements carried out by the Planning Commission, the Central Electricity Authority has developed a Master Telecom Plan for the power sector. Concrete schemes have been framed based on modern communication systems. Several such schemes have been techno-economically appraised by CEA and some of these have also been cleared by DOT. Implementation of a few of such schemes has already commenced.

INTERNATIONAL LOAD DESPATCH CENTRE

With a number of inter-regional links commissioned during the Eighth Plan period and subsequent years in form of National Grid and the five regional load despatch centres already in operation, the setting up of national load despatch centre (NLDC) becomes essential. However, before a full-fledged NLDC is established to oversee the operation of the national grid, a beginning has to be made. Keeping this in view an international load despatch centre has now been set up which is equipped with PC based data acquisition system linking all the RLDCs in the country and providing an additional hot line and FAX facilities to and between the RLDCs from the NLDC. The scheme has been completed on 31 March 1992 and was inaugurated by Honourable Minister of Power and Non-Conventional Energy Resources on 2 April 1992.

STATE ELECTRICITY BOARDS

State electricity boards have been established in 18 out of 25 states. These are mainly responsible for generation and distribution of electricity in their respective states. Arunachal Pradesh, Goa, Manipur, Mizoram, Nagaland, Sikkim and Tripura are yet to establish their electricity boards.

REGIONAL COOPERATION

Chukha Hydro-Electric Project in Bhutan with an installed capacity of 336mw (4x84 mw) along with associated transmission lines to evacuate power to various places in Bhutan and upto Indian border has been implemented with technical and financial assistance from the Government of India. The project has been set up at a cost of Rs 243.71 crore. All four units of the project had been commissioned in September and October 1986 and March and August 1988. Generating units of the project have been operating in a satisfactory manner and supplying power through NHPC in the eastern region in India besides meeting Bhutan's internal consumption.

POWER CORPORATIONS

NATIONAL THERMAL POWER CORPORATION

National Thermal Power Corporation (NTPC) was incorporated on 7 November 1975, as thermal power generating company in the Central sector

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with the main objective of planning, promoting and organising integrated development of thermal power in the country. The authorised capital of the corporation is Rs 8,000 crore.

Presently, NTPC has executed 10 coal based super thermal power projects at Singrauli (UP), Korba (MP), Ramagundam (AP), Farakka (WB), Vindhyachal (MP), Rihand (UP), Kahalgaon (Bihar), Talcher (Orissa), Dadri (UP), Unchahar (UP), five gas based combined cycle projects at Anta (Rajasthan), Auraiya (UP), Dadri (UP), Kawas (Gujarat), Gandhar (Gujarat) and three transmission projects with a total approved capacity of 16,835 mw. NTPC has also been entrusted with the management of Badarpur Thermal Power Station (BTPS) near Delhi since 1978 and with the implementation and management of Messers Balco's Captive Power Station near Korba. Keeping in view the ultimate formation of the National Grid, the Government of India decided to form National Power Transmission Corporation (NPTC) (now called Power Grid Corporation of India Limited) and to transfer all the transmission assets of the central sector power utilities alongwith associated manpower to NTPC. Accordingly all the management and construction of 20,200 ckt km transmission lines and the associated manpower to NTPC were also transferred to NPTC in August 1991. Installed capacity of NTPC projects stands at 12,623 mw.

Based on the expertise and experience gained and to embark a thrust on expanding its activities, a consultancy wing has been established to provide consultancy services to other organisations. The company has secured several assignments including turnkey execution of 400/132 kv, TL project from Dubai Electricity and Water Supply and Tamil Nadu Electricity Board operations improvement from Asian Development Bank.

With a view to mobilise resources for development of power sector, the Government of India has allowed participation of private sector under liberalised framework. NTPC has welcomed the initiative and is holding discussions with various companies for setting up joint ventures. Memorandum of understandings have been signed with different Indian and foreign companies for setting up power projects, (SAIL/MPEB, Messers Spectrum Technology, USA).

RURAL ELECTRIFICATION CORPORATION

Rural Electrification Corporation (REC) was set up in July 1969 for promoting rural electrification by financing rural electrification schemes and rural electric cooperatives in the states. REC have given loans aggregating to Rs 6,004.88 crore (provisional) by 1991-92 to states and state electricity boards for rural electrification schemes.

NATIONAL HYDROELECTRIC POWER CORPORATION LIMITED

The National Hydroelectric Power Corporation (NHPC) was incorporated in 1975 under the Companies Act, 1956. The main objectives of the Corporation are to plan, promote and organise an integrated development of hydroelectric power in the country. The authorised share capital of the Corporation

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stands at Rs 2,500 crore. The paid-up capital which was Rs 1,922.41 crore as on 31 March 1992 has increased to Rs 2,140.63 as at the end of October 1992. The profit during the year 1991-92 was Rs 49.30 crore (before tax) as against Rs 52.76 crore in the previous year. The turnover of the Corporation during the year 1991-92 was Rs 243.94 crore as against Rs. 223.95 crore in the previous year. NHPC is responsible for the operation and maintenance of Baira Siul, Loktak and Salal (Stage-I) power stations located in Himachal Pradesh, Manipur and Jammu and Kashmir respectively. The generation achieved during the year 1991-92 in the above power stations was 3,567.110mus which is 111.54 per cent of the targetted generation of 3,198 mus. The total generation during the year 1992-93 (upto October 1992) was 2,495.70 mus against a target of 2,424 mus for the period. In addition to the generation in its own power stations, NHPC imported during the year 1991-92, 1,396.02 mus from the Chukha Hydel Project, Bhutan. The transmission lines of the Corporation are to be transferred to the Power Grid Corporation of India.

POWER FINANCE CORPORATION LIMITED

The Power Finance Corporation Limited (PFC) was incorporated on 10 July 1986 for providing finance for power generation projects (hydel and thermal) transmission and distribution, systems improvement, urban renovation and modernisation survey and investigation and training of personnel engaged in the power development programme. The corporation commenced its business during 1987-88. The funds are mainly provided to the state electricity boards and state power generation corporations. In the past three years, the corporation adopted a strategy to maximise availability of power in the short term and to guide the development of the power sector along the optimal path in the long term. The operations of the Corporation aim at augmenting resources for the power sector and bringing about improvement in efficiency both operational and financial during the Eighth Five Year Plan. The authorised share capital of the Corporation is Rs 2,000 crore. The paid-up capital is Rs 985.45 crore as in September 1992. PFC has raised bonds to the tune of Rs 1,782 crore upto 30 September 1992.

NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED

North-Eastern Electric Power Corporation was constituted in 1976 under the Companies Act. The Corporation is responsible for operation and maintenance of the 150 mw Kopili Hydro Electric Project which was commissioned in June/July 1988. The Corporation is presently executing the following projects: (i) Doyang Hydro-Electric Project (75 mw) Nagaland; (ii) Ranganadi Hydro Electric Project (405 mw) Arunachal Pradesh and (iii) Assam Gas Based Project (291 mw) Assam.

TEHRI HYDRO DEVELOPMENT CORPORATION

Tehri Hydro Development Corporation was incorporated as a joint venture public sector undertaking under the Companies Act, 1956, on 12 July 1988,

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for execution of Tehri Hydro Power Complex in Uttar Pradesh. The Corporation with equity participation of Centre and Uttar Pradesh in the ratio of 75:25 (for power component of Tehri Complex), will also execute other hydro-electric projects with the consent of the state government. It has an authorised share capital of Rs 1,200 crore.

Tehri Hydro Power Complex (2400 mw) comprises: (a) Tehri Dam and Hydro Power Plant (4 × 250 mw), (b) Tehri Pumped Storage Plant (4 × 250 mw), (c) Koteshwar Dam and Hydro Power Plant (4 × 100 mw) and (d) Associated Transmission system (800 kv/400 kv) for evacuation of power. Besides generation of 4238 mu of energy, the project will provide additional irrigation facilities to 2.7 lakh hectare and intensity existing irrigation facility to 6.4 lakh hectare of land.

POWER GRID CORPORATION OF INDIA LIMITED

Power Grid Corporation of India Limited (POWERGRID), earlier known as National Power Transmission Corporation Limited, was incorporated in October 1989 with an initial authorised share capital of Rs 5,000 crore. The mandate for the Corporation is construction of EHV AC and HVDC transmission lines, sub-stations, load Despatch Centres and communication facilities in a coordinated and efficient manner to move large blocks of power from Central Generating Stations and surplus from SEBs, if any, to load centres within and across the regions with reliability, security and economy. All the transmission lines and associated works from various Central power generating public undertakings will be transferred to POWERGRID.

The *de-jure* transfer of assets from NTPC, NHPC and NEEPCO took with effect from 1 April 1992 through promulgation of an Ordinance on 8 January 1993. *De-jure* transfer of assets for Neyveli Lignite Corporation is under advanced stage of completion. In case of NTPC, no separate agreement was required as their transmission work was handled by NHPC. The transmission business of Nuclear Power Corporation has also been taken over by POWERGRID on 28 August 1991.

The total length of transmission lines under operation with POWERGRID as on 1 December 1992 was 22,960 ckt kms consisting of 1,630 ckt kms, of Rihand-Dadri HVDC line, 15,180 ckt km of 400 kv, 5,442 ckt km of 220 kv, 708 ckt km of 132 kv A/C transmission lines and 37 numbers of sub-stations with a total transformation capacity of 12,467 mva.

NATHPA JHAKRI POWER CORPORATION LIMITED

Nathpa Jhakri Power Corporation (NJPC) was incorporated on 24 May 1988 as a joint venture of Government of India and Government of Himachal Pradesh. The objectives of the organisation are to plan, promote, organise, execute, operate and maintain hydro-electric power projects in the Satluj river basin in Himachal Pradesh. The cost of the projects is to be shared between the Government of India and Himachal Pradesh government in the ratio of 3:1 respectively. The authorised share capital of NJPC is Rs 1,000 crore.

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The Corporation is presently engaged in construction of 1,500 mw (6 × 250 mw) Nathpa Jhakri Power Project (NJPP), located in Kinnaur and Shimla districts of Himachal Pradesh. This project envisages to harness the hydro power potential in the upper reaches of river Satluj in the form of a run-of-river scheme.

The main features of the project are construction of 60.50 metre high concrete dam on river Satluj to divert 405 cuses of water through desilting chambers and 10.15 m diameter and 27.30 km long Head Race Tunnel with an underground power house to house six Francis Units of 250 mw each. The project is estimated to cost Rs 4,614 crore (at March 1993 price level). The project is expected to generate 7,447 million units in an average year besides providing 1,500 mw valuable peaking power to the northern region.

The World Bank has agreed to provide a loan of 437 million US dollars through Government of India for funding the civil works of the project. Presently preconstruction activities are nearing completion. The construction of main components of the project is scheduled to start during current year 1993-94.

Considering the overall scope and complexity of the project Nathpa Jhakri Power Project is one of the major hydroelectric project being undertaken with many unique features and is planned to be completed by June 1998.

DAMODAR VALLEY CORPORATION

Damodar Valley Corporation (DVC) was established in 1948 under an Act of Parliament for unified development of Demodar Valley covering an area of 24,235 sq km in Bihar and West Bengal. Functions assigned to the Corporation are control of floods, irrigation, generation and transmission of power besides activities like navigation, soil conservation and afforestation, promotion of public health and agricultural, industrial and economic development of the valley. The Corporation has three thermal power stations at Bokaro, Chandrapura and Durgapur with a total installed capacity (derated) of 1,740 mw. It has four multi-purpose dams at Tilaiya, Maithon, Panchet and Konar. There are three hydel stations appended to these dams with a capacity of 144 mw. DVC has also set up three gas turbine units of 30 mw each at Maithon. The Corporation is installing one more thermal unit of 210 mw at Bokaro 'B', three thermal units of 210 mw each at Mejia and the four units of 210 mw each at the right bank of Maithon.

BHAKRA BEAS MANAGEMENT BOARD AND BEAS CONSTRUCTION BOARD

Bhakra Beas Management Board has been constituted under the Punjab Reorganisation Act, 1966 for the administration, maintenance and operation of Bhakra Nangal and Beas Projects (Unit-I and Unit-II). The main functions of the Board include the regulation of supply of water from Bhakra and Pong reservoirs and regulation of the supply of power generated at Bhakra, Dehar,

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Pong, Ganguwal and Kotla Power houses to the partner states of Punjab, Haryana, Rajasthan and Himachal Pradesh in the agreed ratios. The present live storage capacity of the Bhakra and Pong reservoirs is 7,191 and 7,290 million cubic metres respectively and installed capacity of power plants is 2,704 mw. Bhakra Beas Management Board manages the operation of about 574 ckt kms of 400 kv lines and 2,975 ckt kms of 220 kv lines. The generation from the Bhakra Beas System during 1992-93 was 12,475 mus, against the CEA target of 11,010 mus *i.e.* generation target exceeded by more than 13 per cent.

POWER ENGINEERS TRAINING SOCIETY

Power Engineers Training Society (PETS) was formed in 1980 as an autonomous body. The Society is responsible for coordinating training programmes of the various state electricity boards, power stations, etc., and supplementing these with its own training activities. The Society has four regional thermal power stations and personnel training institutes at Neyveli, Durgapur, Badarpur (New Delhi) and Nagpur. These institutes conduct regular induction courses, in-service refresher and short-term courses, on-job and on-plant training programmes for power engineers, operators and technicians of thermal power stations, state electricity boards etc. A simulator installed at the training institute at Badarpur (New Delhi) provides training to engineers and operators of 210 mw thermal units.

CENTRAL POWER RESEARCH INSTITUTE

Central Power Research Institute (CPRI), which was set up in 1960 as a subordinate office under the erstwhile Central Water and Power Commission (Power Wing), was reorganised as a society under the Karnataka Societies Act, 1960, with effect from January 1978. CPRI functions as national laboratory for applied research in the field of electric power engineering, while the Central Power Research Institute has its units located at Bhopal, Hyderabad, Koradi, Muradnagar and Thiruvananthapuram, the main complex of its laboratories is at Bangalore. The Institute is an apex body for research and development in the power sector and conducts tests of electrical apparatus in accordance with national/international standards so as to meet fully the research and testing needs of electrical, transmission and distribution equipment. CPRI also serves as a national testing and certification authority for transmission and distribution equipment. The Institute possesses highly sophisticated laboratories comparable to those in developed countries.

ENERGY MANAGEMENT CENTRE

INDO -EUROPEAN COMMUNITY COOPERATION

Energy Management Centre (EMC) registered as a Society under Registration of Societies Act, 1960 was established by the Government of India in April 1989, to act as a focal point for exchange of experience among energy institutes within India and between India and the European Communities.

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The activities of the Energy Management Centre are: (i) to develop a national energy data base on energy; (ii) propose appropriate incentives and other measures to promote energy conservation; (iii) suggest introduction of standard and labels and setting of consumption targets; (iv) organize public information and promotional campaigns on an on-going basis; (v) promote energy audits in enterprises and provide recommendations to improve energy efficiency and fuel substitution; (vi) organize training for energy managers and trainers; (vii) assist the Energy Conservation Cell in the Ministry of Power, Government of India, in co-ordinating all energy efficiency activities and (viii) implement multilateral and bilateral aided conservation projects. EMC has successfully implemented the UNDP-Energy Bus Project. The EEC-India Energy Bus Programme, being executed by EMC, is currently under implementation. EMC acted as the Regional Coordinator for the ESCAP Regional TCDC Working Group on Energy Conservation, which will soon be part of the UNDP Programme for Asian Co-operation in Energy and Environment (PACE-E). The EMC is also in the process of entering into tie-ups with Germany, Sweden, Finland, Britain, ADB and the World Bank for various projects relating to energy efficiency.

COAL

Coal is the main source of energy in the country and it accounts for about 60 per cent of the country's commercial energy requirement. Coal is also an essential input in steel and carbo-chemical industries.

COAL RESERVES

As on 1 January 1993 the coal reserves of India (upto a depth of 1200 metre) have been estimated by the Geological Survey of India at 1,93,777.13 million tonnes. The state-wise distribution is given in table 19.1.

TABLE 19.1 DISTRIBUTION OF COAL RESERVES

(million tonne)

State	Proved	Indicated	Inferred	Total
Andhra Pradesh	6,078.83	916.37	3,842.55	10,837.75
Arunachal Pradesh	31.23	11.04	47.96	90.23
Assam	133.38	67.17	94.63	295.18
Bihar	28,993.19	28,800.95	6,577.61	64,371.75
Madhya Pradesh	9,387.23	20,479.56	9,155.77	39,022.56
Maharashtra	3,169.88	1,179.29	1,927.36	6,276.53
Meghalaya	88.99	69.73	300.71	459.43
Nagaland	3.43	1.35	15.16	19.94
Orissa	5,714.45	22,120.29	18,383.70	46,218.44
Uttar Pradesh	662.21	400.00	--	1,062.21
West Bengal	10,589.78	10,867.35	3,665.98	25,123.11
TOTAL	64,852.60	84,913.10	44,011.43	1,93,777.13

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PRODUCTION

Coal production which was around 72.7 million tonnes at the time of nationalisation of the coal industry in 1971-72, rose to a level of 238.2 million tonnes in 1992-93. India is now the fourth largest coal producing country in the world. The coal production is slated to reach 308 million tonnes by 1996-97. Strategies adopted to achieve higher rate of production are: (i) re-organising existing mines and (ii) opening up of new projects, both underground as well as opencast.

DISTRIBUTION OF COAL

Distribution of coal is controlled statutorily under the Colliery Control Order, 1945. The distribution is to be done by the Coal Controller. However, if for any reason Coal Controller is not able to do so, coal companies have been allowed to distribute coal on the basis of linkages/sponsorships. Short term linkages for important sectors of economy, like power and cement are decided by Standing Linkage Committees set up under the Ministry of Coal. Linkages to other consumers except steel are within the purview of coal companies, which allot coal to actual users as per advice received by them from the various sponsoring authorities. New allotments by coal companies to industries are of the order of 5,000 tonnes per month. Despatch of raw coal during 1991-92 to major sectors of economy is given in table 19.2.

TABLE 19.2 DESPATCH OF RAW COAL

(Lakh tonne)

Year	Power[1]	Steel[2]	Loco	Cement	Fertilizer	Others	Total
1991-92	13,706[1]	2,597	442	997	431	4,426	22,599
1992-933	14,953	2,572	319	1,089	455	4,359	23,747

1. Including washery middling.
2. This figure includes quantity of direct feed coking coal sent to the steel plants and raw coal moved to the washeries for feeding washed coal to steel plant. It excludes coal imported by the steel plant.
3. Provisional.

PROJECTS AND PLANNING

Under the present delegation of powers, coal projects costing upto Rs 50 crore are sanctioned by the Board of Directors of the Coal India Limited. The subsidiary companies of Coal India Limited have powers to sanction projects upto Rs 20 crore. SCCL Board can also sanction coal projects upto Rs 50 crore. Projects costing more than Rs 50 crore are sanctioned by the Government. After the nationalisation of the coal industry in 1973 and till March 1993, the number of projects sanctioned (each costing Rs 2 crore and above) was 613. A total investment of Rs 18,174.37 crore has been sanctioned in these projects.

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Of these, 402 are mining projects and remaining 211 are non-mining projects like washeries, fire control schemes, captive power plants, water supply schemes, etc. Out of 613, 301 projects have been completed and 312 are at different stages of implementation. Mining projects on completion will have a capacity of 324.69 million tonnes of coal per annum.

MINING AND MINING TECHNOLOGY

Even though history of Indian coal mining dates back more than two centuries, real spurt in coal production took place only after the nationalisation of the coal industry. Coal production in the country is now almost completely in the public sector coal companies *e.g* Coal India Limited (CIL) and Singareni Collieries Company Limited (SCCL) except few captive mines of TISCO, IISCO and DVC. Coal India Ltd. producing over 90 per cent of the country's total coal production has seven coal producing subsidiaries, namely, ECL, BCCL, CCL, NCL, SECL, MCL and WCL. The eighth subsidiary CMPDIL is the planning and design institute.

SCCL is a joint venture of the Centre and Government of Andhra Pradesh. About 69 per cent of the coal production is obtained through opencast mines which are almost completely mechanised deploying draglines, shovels, dumpers, drills, dozers, etc. Mechanisation of underground mines has also been taken up in a big way by deploying longwall equipments, road headers, auger-cum-jumbo drill, side discharge loaders and load haul dumpers. Most of the equipment used in coal mines are indigenously available. At present, there are 19 coking coal washeries with an annual capacity of 3,256 lakh tonnes.

COAL CONSERVATION

Conservation of coal is an integrated part of mine planning and operation. This is ensured by maximum recovery of *insitu* reserves of coal. Since coal deposits in India are mostly in thick seams and occur at shallow depths, special techniques for maximising recovery are being developed. Since about 69 per cent of the total coal production at present is coming from opencast mines and the trend is likely to continue in near future, the conservation aspect is being looked after adequately. In the coal bearing areas having steep and irregular coal deposits, gassy seams, contiguous and multi section seams need introduction of some suitable technology for exploitation of such deposits from coal conservation and also safety point of view become important. Some of the newly introduced methods of mining are: (a) to exploit seams developed in multi sections and seams with thickness of 6 to 8m and standing pillars, blasting gallery method have been adopted in Katras project, BCCL. In GDK-10 and GDK-8 mines of SCCL and in Chora Colliery of ECL, blasting gallery method has been planned; (b) for extraction of thick virgin seams sub-level caving technique has been introduced in Katras colliery in Jharia coalfield; (c) longwall method of mining, which gives a high percentage of extraction of coal, has been introduced in mines of Coal India Limited and

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the mines of Singareni Collieries Company Limited and (d) in steep and thick seams of Margheritta area (Assam), the system of Shield Mining has been introduced. The extraction percentage of coal by traditional system which was 25 per cent to 35 per cent has now improved to nearly 70 per cent or even more in the system of shield mining. The flexible roofing method of mining in the thick seams of NEC has also been applied where the thickness of the seam exceeds 4.5 metre. This system, however, has a limited application.

The Coal Mines Conservation and Development Act, 1974 provides for imposition of excise duty on coal despatches for meeting activities like conservation of coal, development/introduction of new technology in coal mines, safety in mines and assistance in mining operation.

A number of research and development activities in coal sector are carried out under overall guidance and supervision of Standing Scientific and Research Committee and its four sub-committees. The applied research is carried out in the fields of production, productivity, safety, coal preparation, coal utilisation, environment and ecology.

SAFETY

Special efforts to improve the standard of safety in the coal industy have brought down the rate of fatalaties per million tonne of output in Coal India Limited to 0.69 and in Singareni Collieries Company Limited to 1.28 in the year 1992. A Standing Committee on Safety regularly reviews safety standards in coal mines.

WELFARE OF COAL MINERS

Coal industry employs over seven lakh workers. Since nationalisation of coal mines, welfare of coal miners by way of providing facilities like housing, water supply, medical care, education, etc., is being given greater attention.

OIL AND NATURAL GAS

Petroleum industry in India has made headway only after Independence. Beginning from a modest level of indigenous crude production and refinery crude throughput of around 2.5 lakh tonnes and consumption of petroleum products of 34 lakh tonnes in 1950-51, the industry has witnessed tremendous progress in the area of oil exploration and production, refining and marketing of petroleum products. Domestic crude oil production reached the peak level of 330 lakh tonnes in 1990-91. During 1991-92 the production of crude oil has come down to 303 lakh tonnes and during April-December 1992 the production was 204 lakh tonnes. India is importing a substantial part of its oil needs. During 1990-91, the gross import of crude oil and petroleum products was 294 lakh tonnes costing Rs 10,779 crore in foreign exchange. During 1991-92, the import of crude oil and POL was at 334 lakh tonnes valued at Rs 13,038 crore. The gross import of crude oil and POL products

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during April-December 1992 was 301 lakh tonnes valued at Rs 12,470 crore. The total consumption of petroleum products duing 1991-92 was at 568 lakh tonnes. During April-December 1992, the consumption was 438 lakh tonnes. Oil industry in India is divided into three broad segments (i) oil exploration and production; (ii) refining and marketing and (iii) petrochemicals and downstream units.

EXPLORATION AND PRODUCTION

The indigenous crude oil production in the country was 33.02 million tonnes in 1990-91 and 30.35 million tonnes in 1991-92. During April-December 1992 the production was 20.44 million tonnes. In order to augment indigenous production of crude oil, Government has sanctioned five oil field development projects since October 1990. These are projects for the development of the Neelam, Mukta and Panna oil fields in the western offshore and the additional development of L-II and L-III reservoirs of Bombay High field. The projects are estimated to cost about Rs 8,000 crore.

In order to supplement oil exploration activities of the two national oil companies, *viz,* ONGC and Oil India Limited, Government of India has invited bids from Indian and international oil companies for exploration of oil and natural gas in 72 blocks—39 offshore and 33 onshore in India. A total of 24 bids were received from 31 companies. Government has approved the finalisation of contracts for four blocks. Negotiations with other bidders are in progress. Government have also taken a decision to offer blocks to foreign and Indian companies for exploration of oil and gas on a continuous round-the-year basis. Recently government has invited offers from Indian and foreign companies for development of discovered medium-sized and small-sized fields. Twelve medium-sized and 31 small-sized fields have been offered for such development.

NATURAL GAS

Production of natural gas in 1991-92 was 18.6 billion cubic metres as compared to 18 billion cubic metres during the previous year and the production of natural gas in April-December 1992 was 13.6 billion cubic metres. The utilisation of natural gas during 1991-92 was 14.4 billion cubic metres as compared to 12.3 billion cubic metres during 1990-91. The balance recoverable reserves as on 1 January 1992 is 735 billion cubic metres.

GAS AUTHORITY OF INDIA LIMITED

Gas Authority of India Limited was incorporated in 1984 for the transportation, processing and marketing of natural gas and was assigned the priority task of setting up a cross-country HBJ pipeline which has already been completed except for very minor items. The company has taken up the construction of the Tatipaka-Kakinada pipeline in Andhra Pradesh and several other gas pipelines in and around Delhi and Maharashtra. Apart from

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the LPG recovery plant at Vijaypur in Madhya Pradesh, the company also proposes to set up such plants at Gandhar, Hazira, Usar and Lakwa. The company also proposes to set up the Bombay City Gas Distribution Project and a Petrochemical Complex in Uttar Pradesh.

RESEARCH AND DEVELOPMENT

Research and development activities by the Oil and Natural Gas Commission (ONGC) and Oil India Limited (OIL) in the field of crude oil and natural gas exploration and production sectors are carried out at their respective R and D centres. ONGC has established eight institutes, *viz,* Keshav Dev Malaviya Institute of Petroleum Exploration (KDMIPE), Dehradun; Institute of Reservoir Studies (IRS), Ahmadabad; Institute of Drilling Technology (IDT), Dehradun; Institute of Engineering and Ocean Technology (IEOT), Bombay; Institute of Oil and Gas Production Technology (IOGPT), Bombay; Geophysical Data Processing and Interpretation Centre (GEOPIC), Dehradun; Institute of Petroleum Safety and Environment Management (IPSEM), Goa and Institute of Biotechnology and Geotectonics (INBIGS), Jorhat.

The main objective of the KDMIPE is to provide back-up services to exploration efforts of ONGC. IRS provides R and D back-up for preparation of development plans of ONGC's oil and gas fields and application of enhanced oil recovery methods with a view to improve their oil and gas recovery. IDT attends to the development of techniques for drilling difficult wells in high pressure/high temperature regime as well as superdeep wells in technically complex areas. IEOT carries out design review for all offshore platforms, deep water production systems and floating production systems. IOGPT has been set up to provide continuous back-up to situation specific production problems and long-term application of appropriate techniques and technologies. GEOPIC is ONGC's premier seismic, gravity, magnetic, logging and geochemical data processing and interpretation centre. IPSEM aims at creating awareness for improved safety and environment management and minimise the pollution accidents and loss of life caused by ONGC operations. INBIGS, when fully operational, will be able to provide genetic probes for direct detection of hydrocarbons with high degree of target specificity. Additionally, ONGC has set up a joint ONGC-Schlumberger Wireline Research Centre at Delhi to meet the long term need of a high technology R and D institute for wireline logging, related fields with inputs from ONGC and Schlumberger. OIL has its R and D centre at Duliajan.

INDIGENISATION

As a result of the policy of the Government to encourage indigenous capabilities for supporting exploration and production activity, a number of facilities have been created indigenously for the manufacture of oil field equipment and for providing oil field services. Indigenous units are given

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special facilities like deemed export benefits and price preference to make their offers internationally competitive.

REFINING

Total refining capacity in the country as on 1 April 1992 was 51.85 MTPA spread over the following 12 refineries as shown in table 19.3

TABLE 19.3 REFINING CAPACITY AND CRUDE THROUGHPUT

Refinery	Capacity as on 1 April 1992 (MTPA)	Actual throughput ('000 tonnes) 1987-88	1988-89	1989-90	1990-91	1991-92	1992-93 April-December
1. IOC, Digboi	0.50	547	574	570	566	546	405
2. HPCL, Bombay	5.50	5,456	5,506	5,755	5,766	4,729	4,387
3. BPCL, Bombay	6.00	6,539	6,132	7,037	6,957	6,940	5,743
4. HPCL, Visakhapatnam	4.50	3,621	3,762	4,280	3,464	3,920	3,300
5. IOC,Guwahati	0.85	815	762	856	783	856	615
6. IOC, Barauni	3.30	2,638	2,815	2,964	2,416	2,262	1,762
7. IOC, Gujarat	9.50	8,444	8,656	9,109	9,334	9,379	7,405
8. CRL, Cochin	4.50	4,111	4,761	4,616	5,006	4,846	3,835
9. MRL, Madras	5.60	5,131	5,476	5,510	5,698	5,529	4,188
10. IOC, Haldia	2.75	2,808	2,636	2,823	2,835	3,021	2,229
11. BRPL, Assam	1.35	1,109	1,166	1,214	1,139	1,164	799
12. IOC, Mathura	7.50	6,535	6,557	7,208	7,808	8,231	5,694
Total	51.85	47,754	48,803	51,942	51,772	51,423	40,362

The total refinery crude throughput during 1991-92 was 51.42 million tonnes which was more than cent per cent of the target of 51.39 million tonnes and represented a capacity utilisation of 99.2 per cent. The refinery crude throughput in April-December 1992 was 40.36 million tonnes against the target of 52.23 million tonnes in 1992-93. This high level capacity utilisation was achieved despite the crude throughput at some of the refineries having been adversely affected due to lower crude production in Assam on account of oil blockade and agitations. Creations of additional refining capacity is sought to be achieved by expansion/ debottlenecking of the existing refineries and also by setting up new grass root refineries. The expansion/debottlenecking will lead to the creation of additional refining capacity of about 82/87 lakh tonnes. In addition to the above expansion programme, the following grass root refineries have also been approved and the projects are under implementation.

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Refinery	Capacity (Lakh tonnes)
Cauvery Basin (Tamil Nadu) (approved on 25 January 1991)	5
Numaligarh (Assam) (approved on 15 July 1992)	30
Karnal (Haryana) (approved on 7 October 1992)	60
Mangalore (Karnataka) (approved on 11 April 1992)	30

Recently, the Government of India has decided that three new refineries each with a capacity of six MMT per annum, to be located in eastern, central and western India during Eighth/Ninth Five Year Plans will be set up as joint venture companies. Further, letters of indent for setting up of new refineries in the private sector have also been issued.

LUBRIZOL INDIA LIMITED

Lubrizol India Limited was incorporated in July 1966 under the Companies Act in pursuance of an agreement between Government of India and Lubrizol Corporation, USA. The paid-up capital of the company as on 31 March 1992 was Rs 960 lakh of which the share of the government was Rs 576 lakh (60 per cent of the total paid-up). The company manufactures chemical additives for use in petroleum-based fuels and lubricants needed for the core sectors of the economy. It also manufactures some major intermediates locally.

ENGINEERING AND CONSULTANCY SERVICES

Engineers India Limited (EIL) was incorporated in 1965 and became a wholly government-owned undertaking in 1967. Authorised capital of EIL was rupees two crore and paid-up capital rupees one crore as on 31 March 1992. The company renders design engineering and technical consultancy services to organisations both in public and private sectors in petroleum refining pipelines, petrochemicals, fertilizers, chemicals, cement, paper, power, non-ferrous metallurgical plants, ocean engineering and other process related industries.

CONSERVATION OF PETROLEUM PRODUCTS

In the context of rapidly increasing oil import bill, high priority continues to be attached to the conservation of petroleum products. Various measures taken to promote conservation of petroleum products cover transport, industrial, agricultural and household sectors. The activities in these sectors are being promoted and coordinated under the guidance and supervision of the Ministry of Petroleum and Natural Gas by the Petroleum Conservation Research Association (PCRA) which is a registered society under the Ministry.

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The multi-faceted efforts organised by the PCRA had resulted in savings in the consumption of petroleum products to the extent of Rs 495 crore (approximately) during the Seventh Plan period. During 1990-91, in addition to the estimated annual recurring saving of Rs 165 crore achieved during the last year of Seventh Five Year Plan, an incremental annual saving of Rs 33 crore was achieved. In 1991-92, in addition to the annual recurring savings, an incremental increase of Rs 40 crore in the saving is estimated to have been achieved. In the subsequent period the ongoing endeavours were intensified by the PCRA. Identification of new or inadequately covered areas of conservation and inter-fuel substitution (use of CNG and alcohol) was done, and appropriate action in regard to these areas was initiated by the Ministry. An important dimension of the oil conservation efforts is constituted by the multi-media awareness campaign.

MARKETING AND DISTRIBUTION

Marketing and distribution network of the Indian petroleum industry is fairly widespread and by and large under control of the public sector oil companies. Apart from over 2,736 km of product pipeline the industry has a network of about 15,155 MS/HSD retail outlets, 5,994 LDO/kerosene dealers and over 4,038 LPG distributors as on 1 April 1992. Fair distribution of products all over the country at stipulated prices, is generally, ensured. An Oil Price Review Committee has been set up in September 1989 to examine indigenous crude oil prices and allied matters.

INDIAN OIL CORPORATION

Indian Oil Corporation Limited (IOC) was set up in September 1964, by amalgamating Indian Refineries Limited with Indian Oil Company Limited. The Corporation has three divisions, namely, (i) marketing division with headquarters at Bombay; (ii) refineries and pipelines division with headquarters at Delhi and (iii) Assam Oil Division with headquarters at Digboi. IOC has a Research and Development Centre at Faridabad in Haryana. The Centre provides technical service to customers and is engaged in development of sophisticated lubrication oils. It is actively working on possibilities of production and utilisation of viable substitute fuels. IOC is also having a wholly-owned subsidiary called Indian Oil Blending Limited (IOBL) which is engaged in blending lubricants.

Market share of the corporation was 56.8 per cent of the total oil industry's sales by April 1992. The corporation had in existence 2,069 cooking gas (LPG) distributorships, 5,892 retail outlet (petrol/diesel) dealerships and 3,175 kerosene/light/diesel oil dealerships in the country.

BHARAT PETROLEUM CORPORATION LIMITED

Following government's acquisition of two Burmah-Shell companies in January 1976, name of Burmah-Shell Refineries Limited, was changed to Bharat Refineries Limited from 12 February 1976. Being an integrated

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refining and marketing company, name of the company was changed to Bharat Petroleum Corporation Limited (BPCL) from 1 August 1977. The company is engaged in processing of crude oil in its refinery at Bombay. In addition, it is in the process of diversifying into petro-chemicals using certain refinery streams as feedstock. Market share of BPCL in 1991-92 was 18.8 per cent of total oil industry's sales. As on 1 April 1992, the company had a total of 793 cooking gas (LPG) distributorships, 4,005 petrol/diesel retail outlets and 913 kerosene oil/LDO dealerships.

HINDUSTAN PETROLEUM CORPORATION LIMITED

Hindustan Petroleum Corporation Limited (HPCL) was set up on 15 July 1974, by acquiring assets in India of ESSO Eastern Inc. USA and became a wholly government owned company. On 31 December 1976, government acquired Caltex Oil Refining (India) and merged it with HPCL. The main activities of HPCL are refining of crude oil, manufacturing lubricating base oil, manufacturing and blending of lubricants, grease and petroleum products and related automative accessories all over the country and marketing of petroleum products including LPG. Market share of HPCL in 1991-92 was 19.4 per cent of total oil industry's sales. As on 1 April 1991, the company had a total of 1,176 cooking gas (LPG) distributorships, 3,963 retail outlets (petrol/diesel) and 1,556 kerosene/light diesel oil dealerships.

IBP COMPANY LIMITED

IBP Company Limited has three divisions, namely, oil, chemical and engineering. Oil division has a country wide retail network marketing petroleum products which it obtains from other oil companies in the absence of its own refining facility at present. The company had in existence 1,295 retail outlets (petrol/diesel) dealerships and 350 kerosene/light diesel oil dealerships in the country as on 1 April 1992. The company is now in the process of setting up its own refinery in Assam under the Assam Accord with equity participation of the Assam government. The division has recently commissioned a lube oil blending plant at Calcutta with a capacity of 35,000 MTPA. The company is poised to launch its own brand of lube oil shortly.

Chemical division manufactures industrial explosives whereas engineering division has made a mark in the field of high vacuum technology (cryocans, simulated space chambers, etc.) besides producing LPG cylinder valves and regulators. The company is also conducting experiments related to usage of CNG (compressed natural gas) in petrol driven vehicles as a substitute. Other plans of the company include separation of LPG from the natural gas, bitumen emulsions, second lube oil blending in northern India etc.

NON-CONVENTIONAL ENERGY

It is well recognised that the development and utilisation of renewable sources of energy alongwith conventional energy sources is necessary to meet the

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growing demand for energy in the urban and rural areas. The techno-economic viability of a number of systems and devices based on renewable energy sources have been demonstrated successfully in the domestic, commercial and industrial sectors. Programmes relating to new and renewable sources of energy (NRSE) not only provide energy in a decentralised manner but also have a direct relevance to afforestation, improvement in the environment, energy conservation, employment generation, upgradation of health and hygiene, social and women's welfare providing water for agriculture drinking and bio-fertilizer production.

Government attaches high priority to promotion and utilisation of new and renewable sources of energy. A high powered Commission for Additional Sources of Energy (CASE) was set up on 12 March 1981. Therefore, the Department of Non-Conventional Energy Sources was constituted on 6 September 1982, in the Ministry of Energy. Now it is a full—fledged Ministry of Non-Conventional Energy Sources. Several states have also set up nodal agencies for the rapid development and utilisation of NRSE. In planning and implementation of NRSE programmes, particular care is taken to elicit the cooperation of local communities and to meet their needs for small power, such as energy for cooking, supply of water for minor irrigation, drinking and domestic purposes as well as also street lighting. These programmes have proved useful particularly in remote and hilly areas in providing facility for the welfare of the weaker sections of the society.

NATIONAL PROGRAMME ON BIOGAS DEVELOPMENT

Biogas is a clean, cheap and convenient cooking fuel. It can also be used for lighting purposes and running small motors for lifting water and providing power for the cottage industries. The slurry from biogas plants is an enriched manure as it has a higher content of oxygen, phosphorous and potassium. Under the national project on biogas development about 16.62 lakh family size and about 865 large institutional/community biogas plants have been set up so far. Waste recycling and resources recovery (WRRSE) are now being developed from the on-going community/institutional and night soil based biogas plants. This will help in improving the sanitary conditions in our cities and villages.

NATIONAL PROGRAMME ON IMPROVED CHULHA

In order to save fuel and reduce the drudgery of women a national programme on improved *chulha* was initiated in December 1983. It is estimated that an improved chulha (stove) can save upto 700 kg of wood equivalent annually. The thermal efficiency of an improved chulha ranges from 20 per cent to 35 per cent as compared with five per cent to 10 per cent for a traditional chulha. Besides conserving energy and saving fuelwood, an improved chulha also helps in eliminating smoke from the kitchen. About 60 models of improved chulha of the fixed, portable and community types, have been approved by the Ministry of Non-Conventional Energy Sources to meet

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the different requirements for domestic, commercial and industrial use in various parts of the country. About 142 lakh improved chulhas have been installed upto March 1993.

SOLAR THERMAL ENERGY PROGRAMME

As a result of sustained research and development efforts, a number of low grade thermal technologies have been successfully evolved for application in areas such as water heating, cooking, power generation, refrigeration, room heating, water desalination, timber kilns for wood seasoning and crop-drying etc. A total solar collector area of 2.80 lakh sq mt had been installed upto 31 March 1993 for purposes such as water heating, desalination of water, timber seasoning, etc. Over 2.40 lakh solar cookers have been sold so far.

URJA GRAM

Urja gram programme has been taken up to meet the energy requirements of the remote and far-flung areas in the country. The programme is based on providing a suitable mix of renewable energy systems based on locally available energy sources. Urja gram projects have been completed upto March 1993 in 184 villages and various projects in another 222 villages are under implementation. Energy surveys of 1,680 villages have been completed and surveys in 344 villages are underway.

MICRO MINI HYDEL PROGRAMMES

There is a rich potential in India for the decentralised generation of power from micro-mini hydel sources. With encouragement of the Ministry of Non-Conventional Energy Sources, 54 projects of a total capacity of 56.93 mw have already been sanctioned with 25 to 50 per cent grants-in-aid. A financing package has further been evolved in collaboration with the Indian Renewable Energy Development Agency (IREDA). In the Eighth Plan, micro/mini hydel sector is intended to be a thrust area of the Ministry.

IREDA

The Indian Renewable Energy Development Agency (IREDA) was set up in 1987 to finance the promotion and development of projects relating to new and renewable energy sources. IREDA has in addition, also taken up an Entrepreneur Development Programme to provide training to new entrepreneurs in the field of NRSE. From its inception till 31 March 1993 IREDA received a total of 371 projects involving an outlay of Rs 499.31 crore. IREDA is a consistently profit earning company and in 1992-93, its profits before tax are estimated to be around Rs 435 lakh.

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20 Industry

ATTAINMENT of industrialisation over the last 46 years has been a striking feature of Indian economic development process which was launched as a conscious and deliberate policy in the early fifties. In pursuance of this policy, large investment has been made in building up capacity over a wide spectrum of industries. Industrial production has made rapid strides in terms of variety, quality and quantity. There has been a substantial diversification of industrial base during this period with the consequent ability to produce a very broad range of industrial good. Self-reliance has been achieved in basic and capital goods. Indigenous capabilities have now been established to the point of virtual self-sufficiency so that further expansion in various sectors such as mining, irrigation, power, chemicals, transport and communication can be based primarily on indigenous equipment. Process of industrialisation has also fostered entrepreneurship and development of a wide variety of technical, managerial and operative skills. Today, the country is in a position to provide consultancy services as well as managers, technicians and skilled workers for setting up industrial projects abroad.

A significant aspect of industrial development during the above period has been the predominant role assigned to public sector in establishment of basic industries. Public sector has taken initiative for development of various industries such as steel, non-ferrous metals, petroleum, coal, fertilizers and heavy engineering. It has also made investment in consumer industries like textiles, drugs and pharmaceuticals, cement and sugar. Number of public sector enterprises which was only five in March 1951 rose to 244 in March 1991. In 1985-86, Government initiated a number of measures aimed at removing constraints on industrial growth and providing a more congenial environment for development. These include delicensing of industries, re-endorsement of capacity, broad banding etc. As a result of these measures, industrial production achieved an average growth of 8.5 per cent in the Seventh Plan period. New policy initiatives announced in the Statement on Industrial Policy of 1991 provide the basic framework for the overall industrial policy of the government.

INDUSTRIAL LICENSING POLICY

Industrial licensing is governed by the Industries (Development and Regulation) Act, 1951. Over the years, keeping in view the changing industrial scene in the country, the industrial licensing policy has undergone modifications. Accordingly a new industrial policy was announced on 24 July 1991. Govern-

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ment has decided to do away with industrial licensing for all industries except those industries specified in Annexure-II of the policy (please see list at the end of this sub-head) irrespective of levels of investment. Compulsory licensing has been considered necessary for security and strategic consideration, safety reasons and over-riding environmental concerns and the need to regulate production of articles of elitist consumption. Besides, entrepreneurs will be allowed to freely develop their industries, become more competitive nationally and internationally, more efficient and modern.

The theme of the policy is continuity with change. While freedom has been given to the major industries to grow, reservation of items for small-scale will continue so as to promote the industrial and agro-industrial employment base. While proposing major changes in licensing policy, the pre-eminent place of the public sector in eight core areas will be continued. These include arms and ammunition, atomic energy, mineral oils, rail transport and mining of coal and minerals. The exemption from licensing will be particularly helpful to the many dynamic, small and medium entrepreneurs who have been unnecessarily hampered by the licensing system. As a whole, the Indian economy will benefit by becoming more competitive, more efficient and modern.

LIST OF INDUSTRIES IN RESPECT OF WHICH INDUSTRIAL LICENSING WILL BE COMPULSORY

(i) Coal and lignite; (ii) petroleum (other than crude) and its distillation products; (iii) distillation and brewing of alcoholic drinks; (iv) sugar; (v) animal fats and oils; (vi) cigars and cigarettes of tobacco and manufactured tobacco substitutes; (vii) asbestos and asbestos-based products; (viii) plywood, veneers of all types and other wood-based products such as particle board, medium density fibre board and black board; (ix) chamois leather; (x) tanned or dressed furskins; (xi) paper and newsprint except bagasse-based units; (xii) electronic aerospace and defence equipment of all types; (xiii) industrial explosives, including detonating fuse, safety fuse, gun powder, nitrocellulose and matches; (xiv) hazardous chemicals; (xv) drugs and pharmaceuticals; (according to Drug Policy) (xvi) entertainment electronics (VCRs, Colour TVs CD players, tape recorders).

BROAD-BANDING FACILITY

Existing and new industrial units will be provided with a broad-banding facility to enable them to produce any article so long as no additional investment in plant and machinery is involved. Further, exemption from licensing will apply to all substantial expansions of existing units.

CHANGE IN CONVERTIBILITY CLAUSE

The mandatory convertibility clause which enables financial institutions to convert loans into equity will no longer be applicable for term loans extended by financial institutions for new projects.

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DIRECT FOREIGN INVESTMENT

Government welcomes foreign investment which is in the interest of the country's industrial development. The new policy welcomes foreign investment with its attendant advantages of technology transfer, marketing expertise, introduction of modern managerial techniques in the country and export promotion.

Approval will be given by the Reserve Bank of India for direct investment upto 51 per cent equity in high priority industries which include areas like metallurgy, electrical equipment, transportation, food processing, software, hotel and tourism industry. There shall be no bottlenecks of any kind in this clearance of proposals for foreign equity participation. Such clearance will be available if foreign equity covers the foreign exchange requirement for imported capital goods. Direct foreign investment beyond 51 per cent or in sectors other than those 34 specified industrial sectors is also permissible but would require the approval by the government.

Dividends to be expatriated by companies in consumer goods sector with foreign equity will have to be met through export earnings over a period of time. All payments flowing from approval of foreign technology agreements will have to be made through foreign exchange purchased at market rates.

Similarly companies with foreign equity upto 51 per cent will be given automatic approval by the Reserve Bank of India to act as trading houses primarily engaged in export activities. This will generate greater passage of Indian goods to export markets.

FOREIGN TECHNOLOGY AGREEMENTS IN HIGH-PRIORITY AREAS

There is a great need for promoting an industrial environment where acquisition of technological capability receives priority. With a view to injecting the desired level of technological dynamism in Indian industry, Government will provide automatic approval for technology agreements related to high-priority industries within specified parameters upto a (a) lumpsum payment of Rs one crore (b) five per cent royalty for domestic sale and (c) eight per cent for exports, subject to payment of eight per cent of sales over a ten-year period from date of agreement or seven years from the commencement of production. Similar facilities will be available for other industries as well if such agreements do not require the expenditure of free foreign exchange. Predictability and independence of action that this measure is providing to the Indian industry will induce them to develop indigenous competence for the efficient absorption of foreign technology.

SPECIAL EMPOWERED BOARD

In pursuance of the decision contained in the Statement on Industrial Policy, a special empowered Foreign Investment Promotion Board has been constituted. The objective of this Board is to invite and facilitate investment in

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India by international companies in projects which are considered to be of benefit to the Indian economy and do not fall within the parameters of the existing policy for clearance of foreign investment proposals. The investment programme of such firms are considered in totality, free from pre-determined parameters or procedures. It provides a single window clearance for all aspects of project proposals considered by it.

PUBLIC SECTOR

For the purpose of planning and national accounting, public sector in India includes all activities funded out of Government's budget. In this sense the size of public sector is, indeed, very large. It includes Government departments and its companies, whether in the Central or the state sector, irrigation and power projects, railways, posts and telegraphs, ordnance factories and other departmental undertakings and banking, insurance, financial and other services. The focus is, however, on the Central public sector enterprises established as government companies or statutory corporations excluding banking units.

Policy on public sector has been guided by the Industrial Policy Resolution of 1956 which gave the public sector a strategic role in the economy. Massive investments have been made over the past four decades to build a public sector which has a commanding role in the economy. However, after the initial concentration of public sector investment in key infrastructure areas, public enterprises began to spread into all areas of the economy including non infrastructure and non core areas. This has resulted in poor general overall performance of the public sector which has manifested itself in low or negative returns to public investment. In order to improve the portfolio and performance of public sector enterprises, the Government of India announced on 24 July 1991 as a part of a Statement on Industrial Policy, the following decisions on public sector:(i) portfolio of public sector investments will be reviewed with a view to focus the public sector on strategic, high-tech and essential infrastructure. Whereas some reservation for the public sector is being retained, there would be no bar for area exclusively to be opened up to the private sector selectively. Similarly the public sector will also be allowed entry in areas not reserved for it;(ii) public enterprises which are chronically sick and which are unlikely to be turned around will for the formulation of revival, rehabilitation schemes, be referred to the Board for Industrial and Financial Reconstruction (BIFR), or other similar high level institutions created for the purpose. A social security mechanism will be created to protect the interests of workers likely to be affected by such rehabilitation packages;(iii) in order to raise resources and encourage wider public participation, a part of the government's share-holding in the public sector would be offered to mutual funds, financial institutions, general public and workers;(iv) boards of public sector companies would be made more professional and given greater powers;(v) There will be a greater thrust on performance improvement through the

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Memoranda of Understanding (MOU) system through which managements would be granted greater autonomy and will be held accountable. Technical expertise on the part of the Government would be upgraded to make the MOU negotiations and implementation more effective and (vi) to facilitate a fuller discussion on performance, the MOU signed between Government and the public enterprise would be placed in Parliament. While focussing on major management issues, this would also help place matters on day to day operations of public enterprises in their correct perspective.

As on 31 March 1992 there were 246 Central public sector enterprises (excluding eight companies with Central investments but without direct responsibility for management, six insurance companies and three financial institutions) out of which 165 enterprises were engaged in manufacturing/producing goods like steel, fertilizers, heavy engineering, transportation equipment, drugs and pharmaceuticals, petro-chemicals, cement,textiles, mining of coal and minerals, extraction and refining of crude oil, etc., and 72 were engaged in rendering services like trading and marketing, transportation services, contract and construction services, financial services, tele-communication services, tourist services and consultancy services etc. Nine enterprises had yet to start commercial production.

Investment in Central public enterprises has grown appreciably over the years. From a figure of Rs 29 crore in 1951 in five enterprises, investment stood Rs, 1,13,896 crore in 246 enterprises as on 31 March 1991 and at Rs 135,871 crore in 246 enterprises as on 31 March 1992. Thus, investment has increased by Rs 21,975 crore during 1991-92 representing an increase of 19.3 per cent.

The plan-wise growth of investment in public enterprises from 1 April 1951 is given in table 20.1

TABLE 20.1 PLAN-WISE GROWTH OF INVESTMENT IN PUBLIC ENTERPRISES

	Total investment (Rs in crore)	Number of enterprises
At the commencement of the First Five Year Plan (1 April 1951)	29	5
At the commencement of the Second Five Year Plan (1 April 1956)	81	21
At the commencement of the Third Five Year Plan (1 April 1961)	948	47
At the end of the Third Five Year Plan (31 March 1966)	2,410	73
At the commencement of the Fourth Five Year Plan (1 April 1969)	3897	84
At the commencement of the Fifth Five Year Plan (1 April 1974)	6,237	122
At the end of the Fifth Five Year Plan (31 March 1979)	15,534	169
At the commencement of the Sixth Five Year Plan (1 April 1980)	18,150	179
At the commencement of the Seventh Five Year Plan (1 April 1985)	42,673	215
At the end of the Seventh Five Year Plan (31 March 1990)	99,329	244.
As on 31 March 1991	1,13,896	246
As on 31 March 1992	1,35,871	246

Table 20.2 indicates cognate group-wise investment during the Seventh Five Year Plan 1990-91, 1991-92 and the percentage share of each group in total investment as at the end of the Seventh Five Year Plan, 1990-91

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TABLE 20.2 COGNATE GROUP-WISE PATTERN OF INVESTMENT

(Rs in crore)

Cognate Group	Seventh Plan Profile								
	As on 1 April 1985	As on 31 March 1990	Total during Seventh Plan	Share % as on 31 March 1990	As on 31 March 1991	As on 31 March 1992	Incremental during 1991-92	Share % as on 31 March 1991	Share % as on 31 March 1992
1 Enterprises under Construction	3,596.66	6,224.23	2,627.57	6.27	669.39	1,072.88	403.49	0.59	0.79
2 Enterprises Production/Selling goods									
(i) Steel	6,329.27	8,299.90	1,970.63	8.36	16,216.50	18,149.20	1,932.70	14.24	13.36
(ii) Minerals and Metals	3,329.96	5,777.71	2,447.75	5.82	6,211.75	7,138.04	926.29	5.45	5.25
(iii) Coal and Lignite	4,741.74	11,997.17	7,255.43	12.08	13,570.32	14,211.03	640.71	11.91	10.46
(iv) Power	3,810.78	17,253.46	13,442.68	17.37	20,523.27	26,014.54	5,491.27	18.02	19.14
(v) Petroleum	4,706.06	10,004.82	5,298.76	10.07	11,131.71	15,594.08	4,462.37	9.77	11.48
(vi) Fertilizers	3,380.85	5,271.11	1,890.2	5.31	5,428.89	5,654.83	225.94	4.77	4.16
(vii) Chemicals and Pharmaceuticals	1,022.84	2,011.54	988.70	2.02	2,206.69	2,532.69	326.00	1.94	1.86
(viii) Heavy Engineering	1,697.62	1,834.04	136.42	1.85	1,878.82	2,614.49	735.67	1.65	1.93
(ix) Medium and Light Engineering	746.33	2,146.84	1,400.51	2.16	2,266.67	2,459.20	192.53	1.99	1.81
(x) Transportation Equipment	1,492.31	2,542.13	1,049.82	2.56	2,733.15	2,874.49	141.34	2.40	2.12
(xi) Consumer Goods	335.21	2,534.44	2,199.23	2.55	2,709.83	2,836.65	126.82	2.38	2.09
(xii) Agro-Based Industries	39.83	72.25	32.42	0.07	74.04	75.58	1.54	0.07	0.06
(xiii) Textiles	1,092.76	2,315.55	1,222.79	2.33	2,453.48	2,558.03	104.55	2.15	1.88
Total(2)	32,725.56	72,060.96	39,335.40	72.55	87,405.12	1,02,712.85	15,307.73	76.74	75.60
3 Enterprises Rendering Services									
(i) Trading & Marketing	936.93	2,455.74	1,518.81	2.47	2,494.46	2,529.57	35.11	2.19	1.86
(ii) Transportation Services	2,583.14	4,722.85	2,139.66	4.75	5,541.94	7,192.23	1,650.29	4.87	5.29

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TABLE 20.2 (Contd.)

(iii) Contract and Construction Services	363.24	672.85	309.61	0.68	779.29	784.41	5.12	0.68	0.58
(iv) Industrial Development & Technical consultancy Services	158.76	996.02	837.26	0.50	401.09	776.58	375.49	0.35	0.57
(v) Tourist Services	91.37	178.86	87.49	0.18	185.79	188.58	2.79	0.16	0.14
(vi) Financial Services	2,071.94	9,645.82	7,573.88	9.71	13,028.71	16,442.52	3.413.81	11.44	12.10
(vii) Telecommunication	-	2,803.95	2,803.95	2.82	3,321.08	4,096.67	775.59	2.92	3.01
(viii) Section 25 Companies	144.92	68.02	76.90	0.07	69.26	74.79	5.53	0.06	0.06
Total (3)	6,350.35	21,044.11	14,693.76	21.18	25,821.62	32,085.35	6,263.73	22.67	23.61
Grand Total (1)-(2)+(3)	42,672.57	99,329.30	56,656.73	100.00	1,13,896.13	1,35,871.08	21,974.95	100.00	100.00

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and 1991-92. The overall financial performance of manufacturing enterprises and services of group enterprises for the last two years is depicted in table 20.3. Collective performance of manufacturing and services group of enterprises is given in table 20.4.

INDUSTRIAL PRODUCTION

Production of some selected industries since 1970-71 is given in table 20.5. Index of Industrial Production (base 1980-81=100) for period from 1981-82 to 1992-93 is given in table 20.6. According to index of industrial production the industrial sector recorded a growth of 1.5 per cent during 1992-93 as against a stagnant growth of 0.0 per cent in 1991-92. Mining and quarrying sector showed an increase of 1.9 per cent, manufacturing sector 0.7 per cent and electricity generation 4.9 per cent during 1991-92.

Detailed industry -group-wise figures showed that in manufacturing sector 10 out of 17 industry groups have recorded positive rate of growth during 1992-93. Notable among them are leather and fur products (10.9 per cent), Chemical and chemical products (5.4 per cent), transport equipment (4.3 per cent), wood and wood products (2.9 per cent), rubber and plastic (2.5 per cent).

MAJOR INDUSTRIES

TEXTILES

Textile industry is the single largest organised industry in the country employing nearly 11 lakh workers. Besides this, there are a large number of ancilliary industries depending on this sector. The industry has witnessed a phenomenal growth during the last four decades. The spindleage increased from 11 million in 1951 to over 27.92 million and rotors from 45,000 in 1989 to 1,14,000 in 1992. The loomage, however, has declined in the organised sector. Out of 1,133 cotton man-made fibre textile mills, 188 mills are in public sector, 121 and 824 are in cooperative and private sectors respectively.

Capacity utilisation in spinning sector of textile mills has increased from 69 per cent in 1985-86 to 75 per cent in 1991-92. However the capacity utilisation in composite sector has declined from 62 per cent in 1985-86 to 56 per cent in 1991-92.

One of the main reasons for the present difficulties of the textile industry is the lack of modernisation and renovation of old and obsolete machinery. It has been estimated that about 63 per cent of spindles and 82 per cent of looms are more than 15 years old. India has the lowest percentage of automatic looms to total loomage in the world. The productivity levels are, therefore, much below the international standards. Modernisation is absolutely imperative if the productivity and efficiency levels in the textile industry are to be substantially raised.

A Textile Modernisation Fund was set up on 1 August 1986 with a corpus of Rs 750 crore to meet the modernisation requirements of the

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TABLE 20.3 PERFORMANCE OF MANUFACTURING AND SERVICE GROUPS OF ENTERPRISES

(Rs. in crore)

SL. No.	Details	Manufacturing Enterprises 1991-92	Manufacturing Enterprises 1990-91	Service Enterprises 1991-92	Service Enterprises 1990-91	Total 1991-92	Total 1990-91
1.	No of Operating Enterprises	165	165	72	71	237	236
2.	Capital Employed	79,839.66	69,632.92	38,652.18	32,450.54	1,18,491.84	1,02,083.46
3.	Gross Turn-over/Sales	1,01,972.07	91,815.85	33,832.63	26,860.07	1,35,804.70	1,18,675.92
4.	Percentage of Gross Sales to Capital Employed	127.72	131.86	87.53	82.77	114.61	116.25
5.	Value of goods produced/services rendered	90,012.76	80,976.78	32,801.47	28,517.90	1,25,491.27	1,11,554.58
6.	Cost of Production/Services	93,855.52	83,617.55	32,364.12	28,609.58	1,26,219.64	1,12,227.13
7	Gain/Loss from Operations (5-6)	–1,165.72	– 580.87	437.35	– 91.68	– 728.37	– 672.55
8.	Other Income	3,987.71	3,384.19	876.60	789.81	4,864.31	4,174.00
9.	Profit/Loss before tax (7+8)	2,821.99	2,803.32	1,313.95	698.13	4,135.94	3,501.45
10.	Tax Provision	994.04	835.67	667.15	393.63	1,661.19	1,229.30
11.	Net Profit/Loss (9-10)	1,827.95	1,967.65	646.80	304.50	2,474.75	2,272.15
(a)	Profit of Profit Making enterprises	4,851.03	4,410.74	1,297.68	983.16	6,148.71	5,393.90
	(No of enterprises)	(87)	(81)	(47)	(42)	(134)	(123)
(b)	Loss of Loss making enterprises	3,023.08	2,443.09	650.88	678.66	3,673.96	3,121.75
	(No of enterprises)	(77)	(82)	(25)	(29)	(102)	(111)
(c)	No of enterprises neither making profit nor loss	(1)	(2)	(0)	(0)	(1)	(2)
12.	Percentage of net Profit/loss to Capital Employed	2.29	2.83	1.67	0.94	2.09	2.23
13.	Interest Charged	6,549.31	5,122.99	3,171.37	2,477.11	9,720.68	7,600.10
14.	Gross Profit/Loss	9,371.30	7,926.31	4,485.32	3,175.24	13,856.62	11,101.55
15.	Percentage of Gross Prior to Capital Employed	11.74	11.38	11.60	9.79	11.69	10.87
16.	Divided	537.22	279.77	117.01	133.15	654.23	412.92
17.	Retained Profit (11-16)	1,290.73	1,687.88	529.79	171.35	1,820.52	1,859.23
18.	Value Added	35,311.91	31,921.50	-	-	35,311.91	31,921.50
19.	Export Earnings	3,647.72	2,446.46	5,549.79	4,639.36	9,197.51	7,085.82
20.	No of employees Including Casual employees (in lakh)	19.23	19.43	3.56	3.59	22.79	23.02

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TABLE 20.3 (Contd.)

SL. No.	Details	Manufacturing Enterprises 1991-92	Manufacturing Enterprises 1990-91	Service Enterprises 1991-92	Service Enterprises 1990-91	Total 1991-92	Total 1990-91
21.	No. of Casual employees (in lakh)	0.78	0.56	0.22	0.30	1.00	0.86
22.	Average annual per capita emoluments (in rupees)	54,573	47,595	67,867	58,403	56,611	49.201

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TABLE 20.4 COLLECTIVE PERFORMANCE OF MANUFACTURING AND SERVICE ENTERPRISES

(Rs crore)

Details		Manufacturing/ Producing Enterprises		Services Enterprises		All Enterprises	
		1990-91	1989-90	1990-91	1989-90	1990-91	1989-90
1.	Number of Enterprises	163	160	73	73	236	233
2.	Investment	86,586	72,061	25,956	21,044	1,13,234	99,329
3.	Capital Employed	69,366.69	58,908.79	32,335.67	25,851.16	1,01,702.36	84,759.95
4.	Turnover/Sales (Gross)	91,411.41	82,516.24	26,943.80	23,552.60	1,18,355.21	1,06,068.84
5.	Percentage of Gross Sales	131.78	140.08	83.33	91.11	116.37	125.14
6.	Value of Goods produced/ Services rendered	82,883.01	74,509.10	28,569.97	24,980.49	1,11,452.98	99,489.59
7.	Cost of Production/Services	83,380.06	71,951.37	28,422.04	24,780.19	1,11,802.10	96,731.56
8.	Gain/Loss from operation (6-7)	-197.05	2,557.73	147.93	200.30	-349.12	2,758.03
9.	Add other income	3,401.49	1,858.19	767.3	676.45	4,168.79	2,534.64
10.	Profit or loss before tax (8+9)	2,904.44	4,415.92	915.23	876.75	3,819.67	5,292.67
a)	Profit-making enterprises	4,444.90	4,894.45	986.52	856.01	5,431.42	5,750.49
	(No. of enterprises)	(82)	(84)	(42)	(47)	(124)	(131)
b)	Loss incuring enterprises	-2,376.13	-1,505.17	-687.55	-456.45	-3,063.68	-1,961.62
	(No. of enterprises)	(79)	(73)	(30)	(25)	(109)	(98)
c)	No. of enterprises neither making profit nor loss	(2)	(3)	(1)	(1)	(3)	(4)
11.	Interest charged	5,084.44	3,600.12	2,449.45	1,728.90	7,539.09	5,329.02
12.	Provision for tax	835.67	1,026.64	616.26	477.616	1,451.93	1,503.80
13.	Gross profit (10+11)	7,994.08	8,016.61	3,364.68	2,605.65	11,358.76	10,621.69
14.	Percentage of gross Profit to Capital Employed	11.52	13.61	10.4	10.08	11.17	12.53

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TABLE 20.5 PROGRESS OF INDUSTRIAL PRODUCTION (SELECTED INDUSTRIES)

SL. NO.	INDUSTRY	Unit	1970-71	1980-81	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
I.	**MINING**											
1.	Coal (Inc. lignite)	lakh tonnes	763.0	1,180.0	1615.0	1,744.0	1,899.0	1,058.5	2,128.10	2,251.00	2,437.4	2,533.05
2.	Iron Ore	lakh tonnes	325.0	422.0	477.0	527.0	510.0	495.0	505.80	537.00	549.3	522.72
II.	**METALLURGICAL INDUSTRIES**											
3.	Pig Iron	lakh tonnes	69.9	95.5	100.4	104.4	108.7	115.8	119.50	121.40	143.47	152.02
4.	Steel Ingots [2]	lakh tonnes	61.4	103.3	90.6	90.7	97.6	106.6	105.90	110.60	126.36	132.53
5.	Saleable Steel[3]	lakh tonnes	44.8	62.8	77.7	82.2	85.9	92.1	90.30	93.10	105.83	113.12
6.	Steel Castings	Th.tonnes	62.0	71.0	93.0	104.8	311.1	332.7	361.80	375.10	393.3	358.1
7.	Aluminium	Th.tonnes	168.8	199.0	251.1	257.8	277.7	357.3	432.70	449.00	511.5	483.3
8.	Blister Copper	Th.tonnes	9.3	25.3	33.6	38.8	33.9	44.8	41.10	40.60	45.1	45.3
III.	**MECHANICAL ENGINEERING INDUSTRIES**											
9.	Machine Tools	Rs. crore	43.0	196.2	291.4	433.8	475.4	559.0	728.10	866.90	921.7	1,104.6
10.	Railway Wagons[4]	Th.nos.	11.1	13.6	13.1	15.2	15.8	21.4	22.20	23.60	25.2	25
11.	Automobiles[5]	Th. nos.	87.9	121.9	219.3	0.0	0.0	0.0	0.00	0.00		
	i) Commercial Vehicle[6]	Th.nos	41.2	71.7	103.0	106.0	119.9	122.5	126.70	145.50	149.9	132.6
	ii) Passenger Cars] [12]	Th.nos	46.7	49.4	116.3	129.8	171.5	198.6	227.20	179.60	164.6	160.6
	iii) Jeeps]	Th. nos.	—	17.9	28.7	29.3	33.3	37.6	45.60	38.30	27.5	37.5
	iv Rovers	Th.nos.	—									
12.	Power Driven Pumps	Th. nos.	259.0	431.0	512.2	459.4	515.8	593.8	480.40	508.00	531.4	525.1
13.	Motor Cycles	Th.nos.	97.0	317.1	732.3	1434.6	1596.9	1,674.9	1,750.40	1,863.20	431.2	384.1
14.	Diesel Engines	Th. nos	65.0	173.9	183.9	2,235.6	2,091.0			1,729.20	1675.9	1,681.4
15.	Bicycles	Th.nos.	2,042.0	4,489.0	5,553.0	6,118.6	6,706.5	6,702.7	6,797.10	6,763.60	7,149	6,963
16.	Sewing Machines	Th.nos.	235.0	335.0	291.0	377.0	314.6	238.3	146.60	92.80	151.2	121

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TABLE 20.5 (Contd.)

IV ELECTRICAL ENGINEERING INDUSTRIES											
17. Power transformers	lakh KVA	80.9	1,945.6	272.5	282.0	241.0	276.0	278.00	366.00	344	341
18. Electrical Motors	Th. HP	2,721.0	4,060.0	5,250.0	5,430.0	4,300.0	5,300.0	5,200.00	6,000.00	6,100	5,400
19. Electrical Fans	lakh nos.	17.2	41.8	52.0	52.6	61.0	65.0	48.00	54.00	53	52
20. Electrical lamps	lakh nos.	1,193.0	1,981.0	2,707.0	2,836.8	2,555.0	2,475.0	2,519.00	2,551.00	2,888	3663
21. Radio Receivers	Th.nos.	1,704.0	1,734.0	1,161.0	1,249.0	977.9	1,035.0	668.10	649.90	281.6	245.1
22. Elecl. Cables & Wire Aluminium Conductor	Th, tonnes	64.2	86.0	61.1	58.0	41.0	29.5	46.70	59.70	56.9	24.1
V CHEMICALS AND ALLIED INDUSTRIES											
23. Nitrogeneous Fertilizer	Th.tonnes	830.0	2,164.0	4,328.0	5,410.0	5,466.0	6,712.0	6,764.60	7,031.50	7,235	7,407
24. Phosphatic Fertilizer	Th.tonnes	229.0	842.0	1,417.0	1,660.0	1,665.0	2,261.6	1,803.00	2,098.50	2,535	2,289
25. Sulphuric Acid	Th.tonnes	1,053.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0
26. Soda Ash	Th.tonnes	449.0	563.0	849.0	912.0	936	1,181.5	1,364.6	1,383.60	1,408.00	1,391
27. Caustic Soda	Th tonnes	371.0	578.0	727.0	764.0	958.0	899.3	922.40	978.20	1,036	1,079
28. Paper & Paper board	Th.tonnes	755.0	1,149.0	1,517.0	1,890.0	2,011.0	2,075.0	2,212.50	2,430.90	2,496.5	2,533.1
29. Rubber Tyres											
i). Auto Tyres	lakh nos.	79.7	123.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ii) Bicycle Tyres	lakh nos.	192.0	270.0	362.0	297.0	233.0	260.0	256.00	248.00	226	194
30. Cement	lakh tonnes	143.0	187.0	330.0	366.0	396.0	437.0	457.67	486.00	517	543
31. Refractories	Th.tonnes	683.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
32. Petroleum Rafinery Products	lakh tonnes	171.0	241.0	399.0	425.0	444.0	453.8	482.80	480.90	478.3	497.2
VI TEXTILE INDUSTRIES											
33. Jute Textiles	Th.tonnes	1,060.0	1,392.0	1,350.0	1,393.1	1,194.9	1,385.0	1,295.30	1,430.00	1,378.6	1,310.8
34. Cotton Yarn [7]	Crore Kgs	101.6	129.8	147.3	152.6	155.5	156.3	163.90	179.60	178.3	182.1
35. Cotton Cloth [8]	Crore mts	777.2	693.8	1,249.9	1,298.7	1,309.4	987.1	1,006.20	1,609.20	1,556.9	1,999.4
Mill Sector	Crore mts	416.2	416.4	337.7	331.6	302.7	280.9	264.80	259.10	237	205
Decentralised Sector	Crore mts	361.0	547.4	912.2	967.1	1,309.4	987.1	741.10	990.50	971.3	1,160.2
36. Rayon Yarn	Th.tonnes	100.0	126.0	0.0	0.0	0.0	0.0	0.0	0.0		

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TABLE 20.5 (Contd.)

37. Art Silk Fabrics	Crore mts	94.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
38. Wollen Manufacturers											
i) WoollenWorsted Fabrics [9]	lakh Kgs	197.0	0.0	0.0							
II) Woollen & Worsted Fabrics [10]	lakh mts	143	0								
VII FOOD INDUSTRIES											
39. Sugar (Oct-Sep)	Lakh tonnes	37.4	51.5	69.9	85.0	91.0	87.1	109.40	119.90	128.5	126.1
40. Tea	Crore Kgs	42.3	56.8	64.8	62.9	67.3	67.5	70.20	71.20	71.5	71.5
41. Coffee	Th. tonnes	71.4	139.5	141.6	143.0	158.5	164.5	164.70	128.50	141.4	141.9
42. Vanaspati	Th. tonnes	558.0	753.0	868.0	918.0	980.0	995.6	938.80	849.40	825.7	892.6
VIII ELECTRICITY GENERATED											
	Crore Kwh	5580.0	11,080.0	17,004.0	18,761.0	20,175.0	22,112.5	24,574.10	26,421.00	28,659	30,056

1. Excludes output in Goa upto 1969-70.
2. In terms of steel upto 1970-71.
3. In terms of finished steel upto 1970-71.
4. Excludes output in Railway workshop.
5. Includes Land Rovers, Jeeps, utilities Station Wagons and vans.
6. Includes buses, trucks, tempos and three and four wheelers.
7. Includes mixed/blended and cent per cent non-cotton yarn from 1970-71.
8. Includes blended/mixed Cotton Cloth from 1970-71 onwards.
9. Includes Viscose Yarn, Staple Fibre and Acetate Yarn.
10. Figures are from calender year from 1977.
11. Relates to public utilities only.
12. Data Includes cars and jeeps only.
13. Data Includes production of small scale sector.

(P) Provisional.

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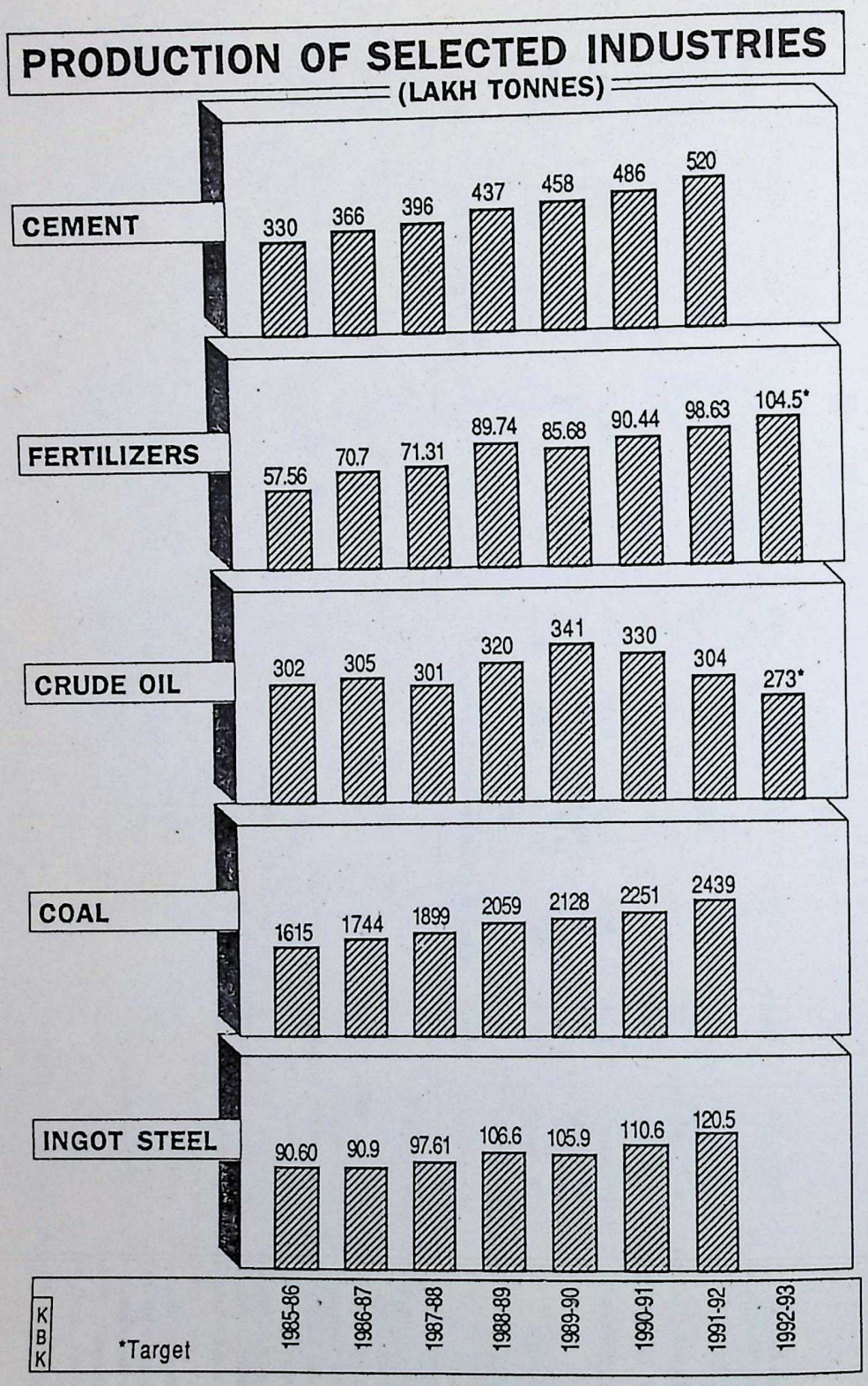

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TABLE 20.6 INDEX OF INDUSTRIAL PRODUCTION (BASE 1980-81=100

CODE GROUP	INDUSTRY GROUP	WEIGHT	INDEX NUMBER 1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988 89	1989 90	1990 91	1991 92	1992 93	Percentage Change 1992-93 / 1991-92
20-21	Mfr. of Food Products	5.327	113.45	129.58	121.06	119.05	125.60	133.14	138.99	148.50	150.90	169.8	176.9	178.3	8.3
22	Mfr. of Beverages, Tobacco & Tobacc	1.571	104.31	107.75	104.48	111.66	112.12	98.52	84.93	92.10	103.00	104.8	119.1	113.7	-4.5
23	Mfr. of Cotton Textiles	12.309	99.70	89.37	100.21	102.18	110.41	112.50	111.33	107.80	111.20	126.6	126.2	127.7	1.2
24	Mfr of Jute, Hemp & Mesta Textiles	1.999	95.71	92.92	78.19	99.40	97.26	101.12	91.05	101.90	97.10	101.6	90.2	86.7	-3.8
25	Mfr. of Textile Products- Others	0.817	96.74	99.30	92.08	95.62	112.80	87.08	91.79	134.20	151.70	103.2	97.2	78.7	19.0
26	Mfr. of Wood & Wood Products	0.448	153.15	153.04	167.51	216.51	223.17	246.07	161.69	171.70	176.00	197.2	185.0	190.5	2.9
27	Mfr. of Paper & Paper Products	3.325	108.25	105.53	109.33	131.87	148.48	163.14	166.30	171.30	181.50	197.9	205.1	209.3	2.0
28	Mfr. of Leather & Fur Products	0.489	128.11	100.10	116.30	139.70	169.23	178.70	185.49	177.40	188.30	194.3	181.5	201.4	10.9
29	Mfr. of Rubber, Plastic etc.	4.000	119.17	119.04	136.11	147.18	153.00	149.60	155.38	168.30	173.40	174.0	172.4	176.7	2.5
30	Mfr. of Chemicals & Chemical Prod.	12.513	116.88	121.15	131.01	142.85	154.30	175.50	200.93	233.40	247.60	254.1	261.3	275.4	5.4
31	Mfr. of Non-Metallic Mineral Prod.	2.999	106.67	103.74	122.50	138.38	157.27	160.27	158.09	184.60	189.90	193.1	205.2	207.2	1.0
32	Basic Metal & Alloy Industries	9.802	100.04	104.18	95.12	107.30	117.02	126.76	135.58	145.00	143.70	158.8	168.1	166.9	-0.7
33	Mfr. of Metal Products	2.288	94.57	89.92	88.09	104.99	114.70	124.45	129.58	133.50	142.60	143.1	133.1	126.4	-5.0
34	Mfr. of Non-Electrical Machinery	6.240	111.10	112.02	119.62	127.57	130.23	141.83	139.23	161.10	172.00	186.9	181.5	178.4	-1.7
35	Mfr. of Electrical Machinery	5.779	103.89	115.89	143.08	148.78	200.57	254.74	335.20	348.70	459.20	563.6	492.9	474.6	-3.7
36	Mfr. of Transport Equipment	6.386	108.06	111.26	123.41	131.56	135.76	144.90	151.70	172.40	180.80	192.5	191.0	199.2	4.3
37	Mfr. of Other Manufacturing Indust.	0.905	149.15	154.99	104.56	122.85	152.72	235.40	272.13	305.60	333.30	321.8	269.8	270.7	0.3
DIVN															
III	MANUFACTURING	77.107	107.93	109.40	115.59	124.83	136.89	149.70	161.53	175.60	190.30	207.8	204.6	206.1	0.7
I	MINING & QUARRYING	11.464	117.68	132.26	147.82	160.85	167.50	177.92	185.59	199.10	211.40	221.2	221.5	225.8	1.9
II	ELECTRICITY GENERATION	11.429	110.18	116.51	125.41	140.39	152.36	168.12	180.70	198.20	219.50	236.8	257.0	269.7	4.9
	GENERAL INDEX	100.000	109.31	112.82	120.39	130.74	142.08	155.10	166.38	180.90	196.40	212.6	212.5	215.6	1.5

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textile industry. Under the scheme, a distinction has been made between units which are in good health and are making reasonable profits and units which though potentially viable have been incurring losses or are just breaking even, for the purpose of assessment of their specific needs for modernisation. A part of the fund has been earmarked for providing special loans in the case of weak but viable units as contribution upto 80 per cent of promoters share. These special loans carry interest at the rate of 6 per cent per annum and are payable over a period of 12 years including a moratorium of the first six years.

Consequent upon revision of interest rate structure, effective from 16 August 1991, interest rate on modernisation loan including those for textile units has been fixed in the band of 18 per cent to 20 per cent per annum. Interest rate on special loan would be 9 per cent per annum in respect of sanctions made after 16 August 1991.

The primary causes of sickness and consequent closure in the organised textile industry can be attributed to factors like uncertainty in the raw material market, low productivity of both machine and labour, increasing competition from the powerloom sector, lack of modernisation, management problems, etc. The increasing phenomenon of sickness and closures has been a characteristic of the industry since 1980. The number of closed mills went up from 13 at the end of 1980-81 to 70 in June 1985 and further to 125 at the end of December 1992.

This is indicative of a fundamental structural transformation in the textile sector as a consequence of which weaving mills in the organised segment are loosing ground to decentralised units *viz.* powerlooms on account of the greater cost effectiveness of the latter. A monitoring and survey section in the Office of Textile Commissioner collects and analyses data of every textile mill on a quarterly basis with a view to detect any sign of incipient sickness so as to enable timely corrective measures to be taken. The Nodal Agency was set up to evolve and implement packages for the rehabilitation of sick/closed textile mills that have been found to be financially viable. It has so far examined 177 sick/closed textile units in different states.

As per the information furnished by Board for Industrial and Financial Reconstruction, there were 233 mills registered with BIFR as on 31 March 1993.

The Textile Workers' Rehabilitation Fund was set up to provide interim relief to workers rendered unemployed as a consequence of permanent closure of textiles units. Affected workers are provided relief equivalent to 75 per cent of wages last drawn during the first year of the closure of the unit, 50 per cent of the wage equivalent in the second year and 25 per cent of the wage equivalant in the third year of the closure. The scheme came into operation with effect from 16 September 1986. However, due to the reluctance states to give requisite permission for closure the scheme remained as non starter till March 1988 when it was modified to make it

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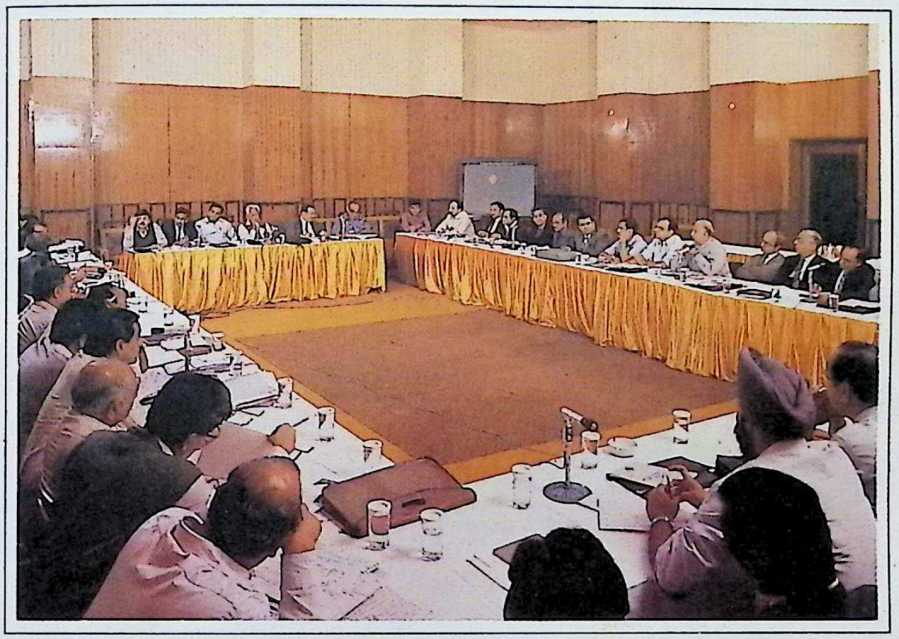

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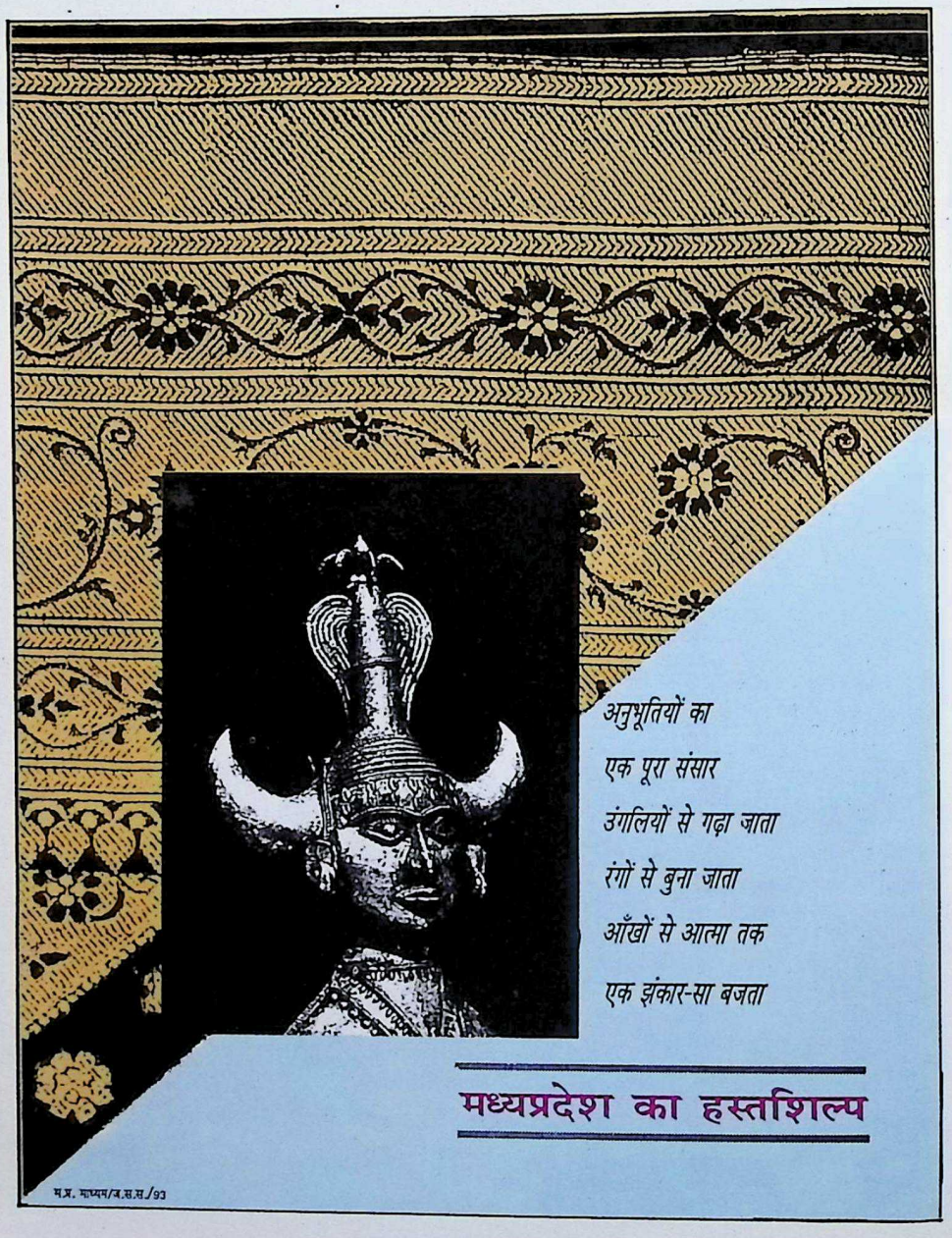

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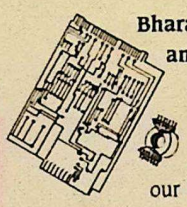

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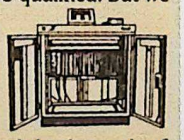

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applicable to cases of mills where official liquidator had been appointed. Till 20 January 1993 a sum of Rs 55.22 crore had been paid to 29,072 workers of 24 closed mills.

By a recent amendment, Textile Workers Rehabilitation Fund Scheme is also now applicable to cases of partial closure on a case to case basis. Partial closure is restricted to cases wherein the state government recommends that an entire uneconomic activity is scrapped as a part of rehabilitation package for sick/weak mill (as per the RBI definition) approved by Nodal Agency/BIFR, provided the scrapped capacity is surrendered for cancellation and endorsement is made on the license/registration certificate to that effect. The scheme is applicable to workers who have been earning wage equivalent upto Rs 2,500 per month.

COTTON RESEARCH ASSOCIATIONS

The Ahmadabad Textile Industry Research Association, Bombay Textile Research Association, South India Textile Research Association and Northern Indian Textile Research Association function under the administrative control of the Ministry of Textiles. A Screening Committee comprising of representatives of the Ministry of Textiles, Department of Science and Technology, Planning Commission, Council of Scientific and Industrial Research and the directors of the associations monitor the progress of on-going schemes and accord approval for new R and D projects undertaken by the these associations. The research bodies undertake work on priority basis in the sphere of energy conservation, pollution control, quality improvement for export purposes, increase in durability of fabrics, utilisation of wastes, improvement in the decentralised sector of handlooms and powerlooms etc. The associations have developed a strong relationship with the user industry with a view to ensure greater cost effectiveness and result orientedness of the end products of their research. A sum of Rs 2.75 crore has been earmarked for the four research associations under plan in 1993-94 and Rs 1.95 crore under non-plan.

HANDLOOM SECTOR

Handloom sector in India represents one of the country's oldest cottage industries which have survived the process of industrialisation and livelihood to about 100.65 lakh persons in the country. The focus initiated in the Textile Policy of 1985 enlarged the scope of the handloom sector and introduced a protective welfare orientation towards this essentially rural sector. Handlooms spread their operations beyond cotton and silk into man-made fibres and jute. Government by an Act in 1985 redefined the existing *Janata* cloth scheme to make it beneficial to the weavers and consumer alike and introduced corporate market tie-up with the poorest among the weavers who were outside the corporative fold and initiated a large number of welfare schemes to provide working capital and infrastructural assistance to India's 31 lakh handloom weaving house-holds. In 1992-93, 38 lakh working looms

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produced 47,180 lakh metre against the plan target of 51,480 lakh metre of cloth. The export of handloom products went upto 1,033.27 crore in 1992-93 from Rs 841 crore in 1990-91. Government has made a number of changes in its policies and has drawn up a number of new schemes for implementation during 1992-93 and for inclusion in the Eighth Plan.

JUTE

Jute industry employs about 2.5 lakh workers and supports 40 lakh jute farmers. There are 73 jute mills of which six belong to the National Jute Manufactures Corporation (NJMC), a public sector enterprise under the Ministry of Textiles. NJMC accounts for 12 per cent of the total production capacity in the industry. The production of jute goods declined to 11.88 lakh tonnes during 1992-93 (April-February) as against 12.78 lakh tonnes during 1991-92.

Various developmental and export promotion activities in the jute sector are receiving financial, technological and marketing support from Jute Manufacturers Development Council (JMDC), a statutory body under the Ministry of Textiles. An agreement has been signed between the Government of India and UNDP for the long term development of the jute sector. The programme covers the areas of jute agriculture, development of new products, employment generation, development of jute machinery sector, R and D institution building, private sector development, export promotion, human resource development and introduction of effective systems of coordination. The programme aims at increasing the share of diversified products in total production of jute goods. Leading R and D institutions involved in jute are IJIRA, JTRL, CRIJAF, IIP, BTRA, SITRA, CPPRI, ATIRA, WRA etc.

Exports of jute goods declined during 1992-93 as compared to the previous year due to the low off take by Russia, global recession etc. Export from Calcutta and Haldia ports during April-February 1992-93 was 1.67 lakh tonnes valued at Rs 286.37 crore as compared to the previous year's export during the same period of 2.29 lakh tonnes valued at Rs 368.41 crore. While the exports to GCA were more or less maintained, there was steep decline in export to RPA countries.

SILK

India has the unique distinction of being the only country in the world producing all the four varieties of natural silk. These varieties are called mulberry and non-mulberry. The non-mulberry silk comprises *tasar, eri* and *muga*. In recent years, India has emerged as second largest producer of natural silk in the world, next only to China. Details of silk production in the country from 1987-88 to 1991-92 are given below:-

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(Metric tonnes)

YEAR	MULBERRY	ON-MULBERRY	TOTAL
1988-89	9,682	971	10,653
1989-90	10,905	1,111	12,016
1990-91	11,487	1,178	12,665
1991-92	10,657	1,206	11,863
1992-93	13,300	1,165	1,465[1]

[1]. Target

The raw silk production target fixed for 1992-93 is 14,465 m. tonnes. Though development of scriculture is basically undertaken by the sericulture departments of the state governments, the Central Government through the Central Silk Board supplements the efforts of the states. The Board has established a network of research and development extension and training units all over the country for the propagation of modern and improved techniques of mulberry cultivation, seed production and silkworm rearing to improve productivity as well as quality of silk production.

Further, in order to accelerate the production of quality mulberry silk in the country, a multicrore National Sericulture Project (NSP) with the aid of World Bank and Swiss Development Co-operation is being implemented at a total cost of Rs 555.30 crore over a period of seven years from 1989-90 to 1995-96.

CEMENT

Cement industry originated in India in 1904 when the first unit started in Madras. Since then, the industry has been growing steadily. The annual average growth rate in the 80s was a little over eight per cent. Till 1984-85 the country had to import about two million tonnes of cement per annum to bridge the gap in demand. However, the industry registered an impressive growth during the Seventh Plan period and the country attained self-sufficiency by the end of the Plan. At present, India is the fifth largest cement producing country in the world after China, CIS, Japan and USA.

After the complete de-control of cement prices and distribution on 1 March 1989 and introduction of other liberalisation measures, the industry has recorded rapid strides both in terms of capacity/production and technology used. As on 31 March 1993 there are about 97 large size plants and about 250 mini cement plants with a total capacity of 680 lakh tonnes. Out of this, a capacity of about 20 lakh tonnes is non-operational. The overall production of cement was 54.14 million tonnes in 1992-93 with a capacity utilisation of 82 per cent. During 1992-93 exports was 11.88 lakh tonnes. Concerted efforts are being made to step up exports during the Eighth Plan period. The expected production in 1993-94 is 60 million tonnes. Another commendable achievement of the industry is the technological

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advancement made by it in recent times which includes schemes for modernisation and expansion using the latest dry process pre-calcinator technology. There were also notable achievements in the areas of energy conservation, pollution control and quality improvement.

With aid provided by World Bank and DANIDA, a human resource project with four regional training centres for meeting the trained manpower requirements of the industry is being implemented. A pilot project for bulk transportation of cement is also being set up in Kalamboli near Bombay.

PAPER INDUSTRY

Paper is a vital and core industry for any country and per capita paper consumption can be taken as a measure of growth and progress in areas related to industrial, cultural and educational activities. Per capita consumption is tending to be stagnant in India at approximately two kilograms as against more than 300 kg in highly developed countries.

The origin of the paper industry could be traced back to 1812 when first paper mill was set up at Serampur, West Bengal. In the beginning of First Five Year Plan in 1950, 1,60,000 tonnes of paper was manufactured and about 90,000 tonnes imported. Production expanded rapidly from the Second Plan onwards and by early 1980, imports were down to 60,000 tonnes and production was almost ten-fold. At present, there are 39 large integrated pulp and paper mills with a total capacity of 18.17 lakh tonnes. Besides, 301 small and medium paper mills are operating with total capacity of 17.46 lakh tonnes.

Capacity utilisation of the paper industry started declining sharply after 1971 and more prominently between 1979 and 1988. Capacity utilisation has declined from 96.35 per cent in 1952 to 60 per cent in 1992. This is due to wide-spread sickness resulting in in-operative capacity of 6.45 lakh MT. Various reliefs and concessions have been extended in recent years to help the industry to improve its capacity utilisation and financial viability. These include liberalisation facility for import of raw materials, excise exemption on use of minimum 75 per cent non-conventional raw materials, *viz.*, baggasse, jute, wheat/rice straw etc., excise concession on use of minimum 50 per cent of these non-conventional raw materials, delicensing the manufacture of certain varieties of paper, etc. At present, the country is self-sufficient in respect of common varieties of writing and printing paper and paper board and only certain special varieties of paper are being imported.

There has been an important structural transformation in paper industry in the last decade. With the coming on stream of several large integrated mills, the average size of mill capacity increased to 16,000 tonnes. However, subsequent growth in the paper industry has mainly been the result of setting up of paper plants based on waste paper and agro residues which has reduced the average size to about 9,500 MT. The small and medium paper mills currently contribute nearly 50 per cent of the

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existing capacity. The demand for paper and paper boards is likely to go upto 22.18 lakh MT by 1994-95 and 28.35 lakh MT by 2000 AD. The increased requirement of paper and paper board upto the and of the Eighth Plan is likely to be met by revival of some of the closed mills and modernisation and expansion of some of the existing units and small paper mills. In order to encourage use of non-conventional raw materials, paper units based on use of minimum 75 per cent pulp from bagasse, agricultural residues and other non-conventional raw materials, have been exempted from industrial licensing subject to the locational angle.

NEWSPRINT

Untill 1981, National Newsprint and Paper Mills presently known as NEPA Limited which commenced in 1955 was the only unit in the country manufacturing newsprint. As on 1 January 1993, there are seven mills in the country licenced for producing newsprint with an installed capacity of 3.53 lakh tonnes. However, newsprint mills in private sector *viz.* Rayalseema Paper Mills having a capacity of 20,000 TPA is lying closed. Demand for newsprint is met by indigenous production supplemented by imports. Import of newsprint which was canalised through STC earlier, has been decanalised with effect from 1 April 1992. The customs duty on the import of newsprint has been abolished with effect from 25 July 1991 in respect of standard newsprint and with effect from 1 March 1992 in respect of glazed newsprint. The production of newsprint for 1992-93 is 3.13 lakh tonnes.

STEEL

The beginning of the iron and steel industry in India came about in 1870, when the Bengal Iron Works Company set up its plants at Kulti in West Bengal. However, the first effort at large scale production got underway when the Tata Iron Steel Company (TISCO) was set up at Jamshedpur in 1907. This was followed by the establishment of Indian Iron and Steel Company (IISCO) at Burnpur in 1919. The first unit in the public sector now known as Visvesvaraya Iron and Steel Limited (VISL) started functioning at Bhadravati in 1923. After independence, development of our steel industry was considered during the First Plan but it was only in the Second Plan that efforts were made to set up three integrated steel plants each with 10 lakh ingot tonnes capacity at Bhilai, Durgapur and Rourkela. An expansion programme to double the capacity of the two private sector steel plants, namely TISCO and IISCO to 20 lakh tonnes and ten lakh tonnes respectively was also taken up. The three plants in the public sector came into operation in stages between 1956 and 1962 and the expansion of the private sector factories was completed in 1959. In the Third Plan, emphasis was laid on the expansion of the three public sector plants and preparation of plans to set up three more steel plants at Salem (Tamil Nadu), Vijayanagar (Karnataka) and Visakhapatnam (Andhra Pradesh) to create additional steel production capacity in the Fifth Plan. Capacity of different steel plants is given in table 20.7.

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Steel Authority of India Limited (SAIL) is a wholly owned government undertaking. It is responsible for the management of steel plants at Bhilai, Durgapur, Rourkela, Bokaro, Burnpur and Salem. The management of IISCO was taken over by the government on 14 July 1976, with a view to improving its working. It is now a wholly owned subsidiary of SAIL. SAIL took over Maharashtra Elektrosmelt Limited, a mini steel plant producing ferro-manganese and steel in January 1986 and Visvesvaraya Iron and Steel Limited, a unit controlled by the Karnataka Government. Authorised capital of SAIL was Rs 5,000 crore and paid-up capital as on 31 March 1992 was Rs 10,145 crore (excluding IISCO). Production of crude steel, saleable steel and pig iron from steel plants under SAIL from 1985-86 to 1992-93 (upto March 1993) is shown in table 20.8.

TABLE 20.7 CAPACITY OF STEEL PLANTS

(In'000 tonnes)

PLANT	RATED CAPACITY	
	Crude Steel	Saleable Steel
SAIL		
Bhilai	4,000	3,153
Durgapur	1,150	938
Rourkela	1,456	1,170
Bokaro	4,000	3,156
IISCO	371	406
Total (integrated Steel Plants)	10,977	8,823

MINI STEEL PLANTS

Electric arc furnace (EAF) units, popularly known as mini steel plants, produce steel from steel scrap/sponge iron. While the integrated steel plants mainly produce mild steel in bulk quantities, mini steel plants produce mild steel as well as alloy and special steels to meet the specific needs of the buyers. One hundred and seventy seven EAF units with an installed capacity of 7.3 million tonnes have been commissioned and have started commercial production. Presently these units are producing over three million tonnes of crude steel. A large number of induction furnaces are also engaged in the production of steel in the private sector.

VISAKHAPATNAM STEEL PROJECT

Visakhapatnam Steel Project is not only the first integrated steel plant in the shore area but also the first plant in the southern part of the country. Its various techno-economic parameters are superior to those of existing public sector plants. Many modern technological features have been incorporated in the designing of this project which include seven-metre tall coke oven

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TABLE 20.8 PRODUCTION IRON AND STEEL

('000 tonnes)

Plant	1985-86	1986-87	1987-88	1988-89 upto March 1993)	1989-90	1990-91	1991-92	1992-93
				CRUDE STEEL				
Integrated Steel Plant								
Bhilai	2,345	2,230	2,471	3,094	3,253.6	3,511	3,744	3,941.8
Durgapur	875	922	936	955	850.0	875	871	675.5
Rourkela	1,177	1,100	1,114	1,191	1,170.2	1,246	1,234	1,257.4
Bokaro	2,003	2,056	2,418	2,771	2,658.8	2,306	3,417	3,589.4
IISCO	565	528	546	465	344.4	324	364	363.3
TOTAL	6,965	6,836	7,485	8,476	8,269.0	8,762	9,631	9,827.4
				SALEABLE STEEL				
Bhilai	2,055	2,150	2,173	2,542	2,593.08	2,795	3,104	3,118.2
Durgapur	724	751	835	832	700.1	727	632	640.5
Rourkela	1,005	1,140	1,156	1,168	1,111.4	1,087	1,125	1,179.3
Bokaro	1,720	1,744	1,968	2,277	2,325.2	2,426	2,730	2,998.5
IISCO	500	526	542	442	332.5	329	387	398.3
TOTAL	6,004	6,311	6,674	7,261	7,063.0	7,365	8,028	8,334.8
				PIG IRON				
Bhilai	388	314	202	297	321.4	96	175	134.7
Durgapur	143	153	179	129	206.6	87	69	17.1
Rourkela	30	60	97	68	72.3	50	41	29.5
Bokaro	502	642	641	345	309.1	332	171	153.3
IISCO	90	92	84	170	243.1	308	389	429.6
TOTAL	1,153	1,261	1,203	1,009	1,233.6	873	845	764.2

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battery, biggest blast furnace, cent per cent continuous casting facilities etc. The striking feature of the project is the minimum number of employees to achieve the productivity of 230 tonnes per man year which would be much higher than the maximum achieved in any steel plant in the country.

The total capacity of VSP is three million tonnes of crude steel per annum. Units under stage-I with a capacity of 1.5 million tonnes crude steel were commissioned during September 1989 to October 1991. The units under stage-II were commissioned by the end of July 1992. The plant was dedicated to the nation by the Hon'ble Prime Minister on 1 August 1992.

During 1992-93, VSP produced 1.981 million tonnes of hot metal, 1.052 million tonnes of crude steel, 0.879 million tonnes of saleable steel and 0.914 million tonnes of pig iron. The production during 1992-93 was much higher than the production during the previous year. Exports of wire rods by VSP started in a modest way during the very first year of operation (1991-92) and the turnover was a little over Rs 1.0 crore. In 1992-93, VSP exported 280 lakh tonnes of steel valuing Rs 212.41 crore. It has also commenced export of pig iron in March 1993.

SALEM STEEL PLANT

Salem Steel Plant which began commercial production in March 1982 has capacity to produce 65,000 tonnes of stainless steel sheet coils. It is capable of producing sophisticated grade of stainless steel for use in the industrial sector. Capacity of the plant is doubled at a cost of Rs 69.37 crore, by installation of second 'Z' sendzimir mill which was completed well ahead of schedule in March 1991.

METALLURGICAL AND ENGINEERING CONSULTANTS

The Metallurgical and Engineering Consultants (India) Limited (MECON) is a premier design, engineering and consultancy organisation. It has specialised in the field of consultancy, detailed engineering, equipment supply, project management, broad spectrum of technical services to ferrous, chemical, energy and defence sectors of the industry. MECON has also diversified its activities to high technical fields like nuclear fuels, offshore structural engineering, sea -bed nodules mining, renewable energy, mass transportation systems.

SPONGE IRON

In order to reduce dependence on imported steel melting scrap, indigenous production of sponge iron which is a partial substitute for steel melting scrap is being encouraged. Sponge iron is produced by direct reduction of high grade iron ore/pellets in the solid state i.e. without the material going into the liquid phase as in the blast furnace. This reduction of iron ore can be achieved by using either carbon bearing material such as non-coking coal or a suitable

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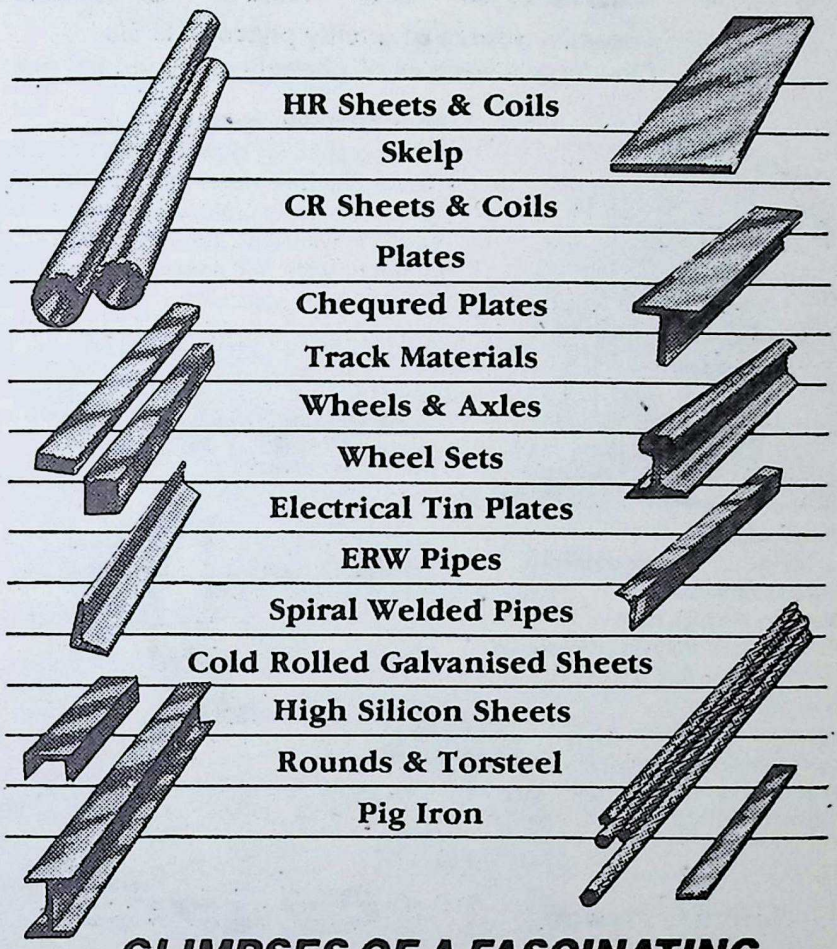

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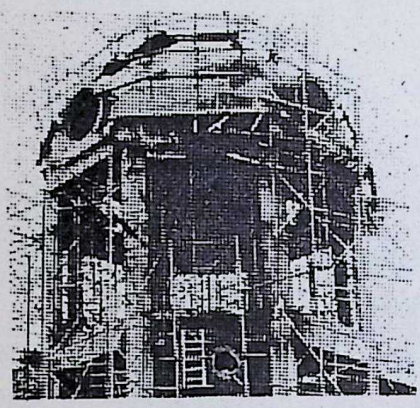

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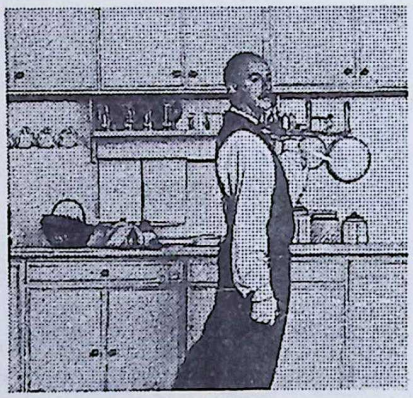

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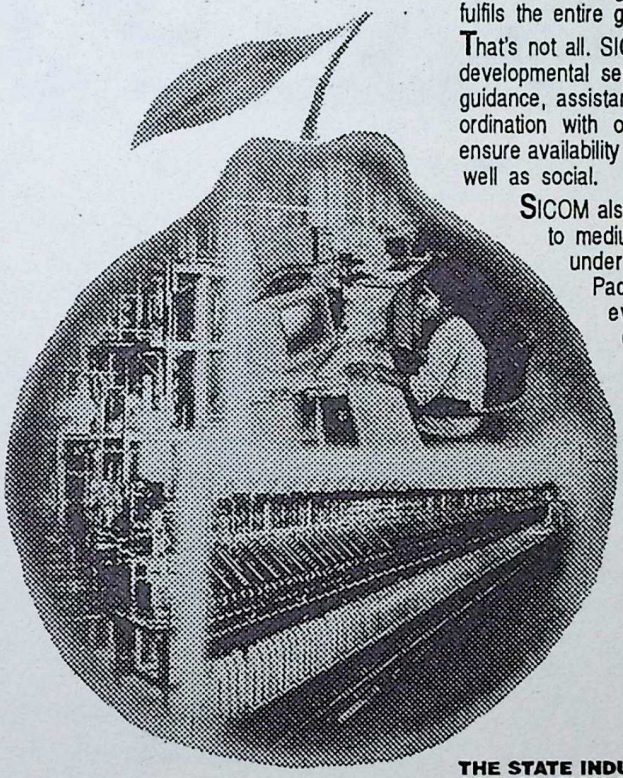

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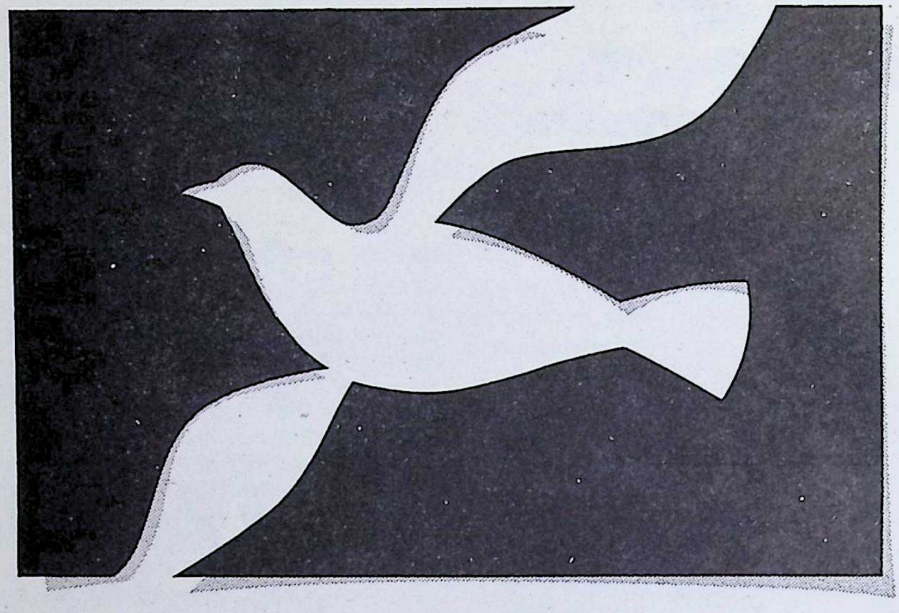

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sponge iron has increased from 30,000 tonnes in 1980-81 to about 18 lakh tonnes in 1992-93 (10 lakh tonnes coal-based and 8 lakh tonnes gas-based capacity). The production of sponge iron has also increased from 1.9 lakh tonnes in 1988-89 to about 15 lakh tonnes in 1992-93.

FERTILIZERS

Four decades of planning and development has brought India to the front-line of fertilizer producing countries and is today the fourth largest producer of nitrogenous fertilizers in the world. There are, at present, 56 fertilizer units manufacturing a wide range of nitrogenous and complex fertilizers, including nine units producing ammonium sulphate as a by-product. Besides, there are about 80 units producing single superphosphate . Production capacity of nitrogen has increased from a modest 85,000 tonnes in 1951-52 to 85.31 lakh tonnes as on 31 March 1993 and that of phosphatic fertilizers from 63,000 tonnes to 28.22 lakh tonnes of P_2O_5 during the same period. Against the nominal production of 16,000 tonnes of nitrogen and 11,000 tonnes of phosphate in 1951-52, the country produced 74.30 lakh tonnes of nitrogen and 23.6 lakh tonnes of phosphate in 1992-93. Despite massive increase in the indigenous capacity and production of fertilizers over the years, substantial imports, either in the form of finished fertilizers or its raw materials and intermediates, are required every year to meet the country's growing demand. The overall per hectare consumption of fertilizer nurtients in the country has been rising steadily and has now reached a level of about 71 kg from a mere 0.55 kg in 1950-51.

Three large scale gas-based nitrogenous fertilizer plants, with an annual installed capacity of 3.34 lakh tonnes of nitrogen each, are presently under implementation at Gadepan (Rajasthan), Babrala and Shahjahanpur (UP). While the Gadepan project is expected to be commissioned around December 1993, the other two projects are likely to go on stream during 1994-95.

With a view to making fertilizers available to farmers at a price they could afford the Retention Price Scheme was introduced in 1977. Its aim was to insulate farmers from the rising trend in fertilizer prices and to ensure that fertilizer consumption in the country did not suffer as its growing use was an essential component of the Green Revolution strategy of India's development. The scheme simultaneously aimed at ensuring reasonable return on investment to indigenous manufacturers and to attract further investment in this vital sector. The scheme proved its worth in terms of stimulating greater production and use of fertilizers and thereby contributing to greater agricultural production. Inspite of substantial increases in the prices of feedstocks, utilities, wages etc. and consequent revision in the retention prices, the selling prices of fertilizers to farmers remained almost frozen for ten years between 1981 and 1991. Thus, while the objective of promoting increased use of fertilizer by farmers was served, this added to the quantum of subsidy borne by the government year after year. The fertilizer subsidy bill borne by the government went up from Rs

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375 crore in 1981-82 to Rs 4,800 crore in 1991-92. Realising that the country could no longer afford to continue with a system which imposed a large and growing burden of fertilizer subsidy, the government effected an increase of 30 per cent in the selling price of fertilizers in August 1991 after a gap of a decade. While this served to bring down the subsidy requirement from what it would have been in the absence of the price revision, it did not offer much relief in terms of the absolute amount of subsidy bill for the year because inspite of 30 per cent price increase, fertilizers continued to be heavily subsidised. The outgo on subsidy was higher also because of the otherwise welcome growth in production and consumption of fertilizers.

A Joint Parliamentary Committee was set up to go into the various aspects of fertilizer pricing and subsidy. Based on its recommendations, government announced some major changes in the fertilizer pricing policy in August 1992. All price and distribution controls on phosphatic and potassic fertilizers were removed and the selling price of urea was reduced by 10 per cent with effect from 25 August 1992. Simultaneously, to maintain relative price parity among all the nitrogenous fertilizers, low analysis nitrogenous fertilizers were brought back under price and distribution control.

To make production and marketing of phosphatic and complex fertilizers more competitive *vis-a-vis* imports in the wake of withdrawal of price and movement controls various other corrective measures have been taken by the government. These include : abolition of import duty on phosphoric acid, a basic raw material for phosphatic fertilizers; free availability of foreign exchange for import of raw materials and intermediates for manufacture of DAP and complex fertilizers at official exchange rates, (till unification of exchange rates in March 1993) and lowering of railway freight for phosphatic and potassic fertilizers. In order to cushion the impact of increase in the prices of decontrolled fertilizers on farmers during *Rabi* 1992-93 season, a special subsidy of Rs 1,000 per tonnes on DAP and Mauriate of Potash (MOP) and corresponding relief in the case of complex fertilizers has been announced.

PUBLIC SECTOR UNDERTAKINGS

Public sector has been playing a dominant role in the fertilizer industry. The first state-owned fertilizer unit was set up in 1951 at Sindri in Bihar which was followed by another plant at Nangal in Punjab. With the coming up of another fertilizer plant at Trombay, government decided to bring all the public sector fertilizer units under the management of a single undertaking and the Fertilizer Corporation of India Limited (FCI) was accordingly incorporated in January 1961. The National Fertilizers Limited was established on 23 August 1974. Thereafter, the Fertilizer Corporation of India and the National Fertilizers Limited were re-organised into four companies on the basis of feed-stock used and geographical considerations from 1 April 1978.

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At present, there are nine public sector undertakings under the administrative control of Department of Fertilizers. FCI has now four units, one each at Sindri (Bihar), Gorakhpur (UP), Talcher (Orissa) and Ramagundam (Andhra Pradesh), with a total installed capacity of 8.06 lakh tonnes of nitrogen. Besides, it has an organisation, known as the Jodhpur Mining Organisation engaged in the mining of gypsum in Rajasthan. The National Fertilizers Limited (NFL) has, at present, five operating units, *viz.*; the calcium ammonium nitrate plant at Nangal and urea plants at Nangal, Bhatinda, Panipat and Vijaipur. With the commissioning of the Vijaipur plant in 1987-88, the total installed capacity of NFL has gone up to 10, 35,880 MT of nitrogen, making NFL the largest producer of nitrogenous fertilizers in the country. The Fertilizers and Chemicals Travancore Limited (FACT), Udyogamandal (Kerala), has at present, three operating units, one at Udyogamandal and two at Cochin. Besides fertilizers, the company is engaged in the manufacture of chemicals. With the commissioning of caprolactum plant in October, 1990, the company has entered the field of petro-chemicals. FACT Engineering and Design Organisation (FEDO), another division of the company, is engaged in design, engineering, procurement, supervision of construction and commissioning of fertilizer chemical plants.

Rashtriya Chemicals and Fertilizers Limited (RCF) is incharge of the Trombay plants and the large gas-based fertilizer plant at Thal which started commercial production in 1985. Hindustan Fertilizer Corporation Limited has five units in production, three at Namrup in Assam and one each at Durgapur in West Bengal and Barauni in Bihar, having total annual installed capacity of 6.54 lakh tonnes of nitrogen. Madras Fertilizers Limited (MFL) is a joint venture, with the Government of India holding 67.55 per cent of the equity share capital and the National Iranian Oil Company holding the remaining 32.45 per cent. The annual installed capacity of MFL is 1.76 lakh tonnes of nitrogen and 1.12 lakh tonnes of phosphate. Pyrites, Phosphates and Chemicals Limited (PPCL), set up in March 1960 is engaged in the exploration of pyrites deposites as well as production of single phosphate at Amjhore in Bihar, exploration-cum-production mining of pyrites deposits at Saladipura in Rajasthan and mining of rock phosphate ore from the Mussoorie phosphorite deposits.

Projects and Development India Limited (PDIL), formerly known as Fertilizer (Planning & Development) India Limited, is engaged in design, engineering, procurement and supervision of construction/commissioning of fertilizer and allied chemical plants. The company has played pioneering role in developing, entirely on its own initiative, the know-how for manufacture of catalysts in India. Paradeep Phosphates Limited (PPL) was established in December 1981 for setting a phosphatic fertilizer complex at Paradeep in Orissa. Phase-I of the project, comprising 7.20 lakh TPA capacity DAP plant and allied facilities was commissioned in 1986. Phase-II of the project, comprising sulphuric acid and phosphoric acid plants, has also since gone into commercial production in June 1992.

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COOPERATIVE SECTOR

Indian Farmers Fertilizer Cooperative Limited (IFFCO) incorporated in 1975 and Krishak Bharati Cooperative Limited (KRIBHCO) set up in 1985 are the two cooperative sector companies under the administrative control of the Department of Fertilizers. IFFCO has four operating units, one each at Karol and Kandla in Gujarat and Phulpur and Aonla in Uttar Pradesh. KRIBHCO has a gas-based urea-ammonia plant at Hazira in Gujarat.

ENGINEERING INDUSTRIES

Over the years, engineering industries in the country have register a phenomenal growth to generate a strong base in a wide-range of heavy and light engineering industries covering a broad spectrum of capital goods and consumer durable products. Bulk of capital goods required for power projects, fertilizer plants, cement plants, steel plants, mining equipment and petrochemical plants are being met from indigenous production. Construction machinary and equipment for irrigation projects, diesel engines, pumps and tractors for agriculture, vehicles, etc., transport are also being met from within the country.

Engineering industries have also demonstrated their capacity to manufacture large size plants and equipment for various sectors such as power generation, fertilizers and cement. The machine tool industry which manufactures mother machines for use in the engineering industry is the backbone of the entire industrial engineering sector. During the last three and a half decades,the machine tool industry has achieved an impressive growth and established a sound base for the manufacture and supply of machine tools to the engineering and other industries.Indigenous industry has already entered the export marker for conventional machine tools.

HEAVY ELECTRICAL INDUSTRY AND OTHER INDUSTRIAL MACHINERY SECTOR

Mining machinery includes coal cutters, haulages, winders,armoured-face conveyors, self-advancing powered roof support, washeries, etc. There are at present 17 manufacturers in the organised sector and their production during 1991-92 was Rs 91.66 crore. Material handling equipment consists of different types of conveyors, coal/ore/ash handling plant and associated equipment such as stackers, reclaimers, ship loaders/unloaders, wagon tipplers, feeders,etc. There are 37 units in the organised sector manufacture various types of material handling equipment. The estimated production during 1992-93 was 300 crore. The indigenous manufacturers have the necessary infrastructure, designs,drawings and expertise for supply of tailor-made, bulk material handling equipment. Foreign collaboration for specialised type of equipment in selective areas is considered on merits.

Oil field equipments comprises of a wide range as required in exploration, drilling and production of oil and natural gas. Some of the major categories of those equipments are offshore platforms/structures and offshore and onshore drilling equipment.The main users of this equipment

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are ONGC and Oil India Ltd. For offshore platforms/structures, there are three manufacturing units in the public sector namely, Mazagaon Dock Limited, Hindustan Shipyard Ltd. and Burn Standard Co Ltd and other units who have taken up the manufacture of various top deck equipment required for the platforms are BHPV Ltd.,L and T Ltd, Triveni Plenty Ltd., Bharat Process and Mechanical Engineers Ltd., Thermax Limited, Kaveri Engineering etc. For the item of onshore drilling rigs, BHEL, Hyderabad, is the only unit in the country which has established a capacity of 12 units per annum. It has supplied a large number of drilling rigs, including mobile rigs and workover rigs to ONGC and Oil India Ltd.

Metallurgical machinery includes size reduction equipment, furnaces, steel plant equipment,foundry equipment, ore-dressing, benefication and pelletisation plant, crushing and grinding equipment and the like. There are 39 firms borne on the list of DGTD for the manufacture of various types of metallurgical machinery. The production of this sector in 1991-92 has been estimated at Rs 111.64 crore. The industry is totally delicensed and there is no bar to creation of capacity and induction of technology including foreign equity participation. Cranes required by various industrial sectors like steel plants, petroleum complex, mining sector, port trust and construction industry are manufactured. Import of know-how for manufacture of certain types of sophisticated cranes has also been allowed. With stringent emission standards that are enforced for the various industries under the Environmental Control Act, air pollution control equipment has assumed great significance in the country. Bulk of the production caters to the requirements of the power and cement sectors.

The Textile Machinery Manufacturing Industry (TMMI) has made rapid progress in the manufacture of conventional as well as sophisticated items of textile machinery, components,spares and accessories. Sophisticated types of spinning machinery such as latest generation blow room lines, high production cards, high speed draw frames and combers, ring frames and open spinning machines are manufactured. Some of the textile machinery is being manufactured under foreign collaboration. There are about 600 registered units.

Heavy electrical industry comprises equipment used for generation, transmission, distribution and utilisation of power. It includes items such as generators, boilers, turbines, transformers, switchgears,etc.The indigenous industry is equipped to meet the entire domestic requirement. The established capacity in the country for manufacture of thermal and hydro-power generating equipment is around 4,500 MW and 1,345 MW, respectively. BHEL a public sector unit plays pre-dominant role in this field. It has developed a capacity to manufacture thermal power generating sets of 500MW unit size and gas based power turbines of different ratings. The entire industry has been delicensed under the new industrial policy as well as these items qualify for foreign collaborations under automatic scheme.

Broadly, electric furnace industry has two categories, namely (i) induction furnaces, heating equipment including induction heating equipment

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and (ii) arc furnaces. Electrical furnaces are used for various applications in metallurgical and engineering industry like foreging and foundry and foundry, machine tools, automobiles, etc. Adequate capacity for production in this sector has been established in the country and production in this sector has been satisfactory. At present, the transmission system is limited to 400 KV. Such transmission has already been established with the commissioning of the first few lines in UP and Bhakra and the western Maharshtra regions. Indian industry is now manufacturing all switchgears and protection lines required for EHV and HV sub-station as per international standards.

AUTOMOBILES

The manufacture of all types of automotive vehicles has been delicensed under the new industrial policy. The production of commercial vehicles during 1992-93 was 1,28,580. Five units in passenger car industry produced 1,63,700 passenger cars during 1992-93. The production of jeeps by the two units during 1992-93 was 39,276.

In the field of two-wheelers including motorcycles, scooters and mopeds, there are 24 units with an installed capacity of 32 lakh per year. Production during 1992-93 was about 15 lakh. In the three-wheeler scooter, the production was 65,166. Nineteen units were licensed to manufacture agricultural tractors with a total installed capacity of 1.70 lakh. The manufacture of agricultural tractors including power tillers and combine harvestors has since been delicensed. The production agricultural tractors during 1992-93 was 1,46,391.

SOAPS AND DETERGENTS

Fifty eight units in the organised sector are manufacturing soap with an installed capacity of 6,60,772 tonnes per year. Production of soap in this sector was of the order of 4,35,400 tonnes during 1991-92 and is estimated to be 4,86,296 tonnes during 1992-93. There are twenty four units in organised sector for manufacture of synthetic detergents with an installed capacity of 4,40,000 tonnes per year. Production of detergents was 4,53,791 tonnes during 1991-92 and is estimated to be 4,99,170 tonnes during 1992-93.

LEATHER INDUSTRY

Leather is a highly labour-oriented industry in India and has been identified as one of the major thrust areas for export. From Rs 2,553 crore during 1990-91 the export of leather products was estimated to be around Rs 4,100 crore during 1992-93 showing an annual growth rate of about 27 per cent. This industry can be divided into three distinct sectors: (i) organised sector units borne on the rolls of Directorate General of Technical Development (DGTD); (ii) small scale units registered with state directorates of industries; and (iii) unregistered small scale and cottage sector units. Footwear in the leather sector has been identified as an area of extreme focus for exports and

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in 1991-92 leather footwear and footwear components valued at Rs 1158.64 crore have been exported. The industry continues to remain predominantly in small scale and cottage sectors.

A National Leather Development Programme (NLDP) has been launched by the government for integrated development of leather industry in the country.Its implementation has commenced from 1 April 1992. The UNDP assistance in the programme is of the order of US $ 15.05 million. The programme, *inter-alia,* covers areas such as human resource development, improvement of footwear sector, strengthening of R and D capacity to facilitate product and techhnology development, improving support services, implementing strategy for pollution control, promotion of joint ventures and enhancement of export capabilities and marketing efforts etc.

CHEMICALS

Chemical industry plays a pivotal role in Indian economy. It ranks fourth, next only to iron and steel, engineering and textile industries. In the last few years, this industry has witnessed a rapid growth in the organic and inorganic sectors. It is higly technology oriented and a number of incentives have been given to promote development activities. Industrial licensing has been done away with for all industries except a small list of hazardous chemicals. Enterpreneurs are, therefore, now free to set up chemical industries, by intimating to the government through the industrial entrepreneurs' memorandum.

Development of oganic chemical industry in India is started in April, 1950, based on ethyl alcohol, manufactured from fermentation and distillation of sugarcane molasses and benzene available as a coke-oven by product. At present, a substantial part of the industry is based on feedstock derived from petroleum. Basic organic chemicals like phenol, methanol, formaldehyde, acetone and acetic acid are manufactured in the country in substantial quantities. Major inorganic chemicals like soda ash, carbon black, calcium carbide, red phosphorous and potassium chlorate are all manufactured in the country and a position of near self-sufficiency has been achieved in all these chemicals. Alcohol producing industry was started in 1940 mainly to utilise molasses producred from sugar factories. With the growth of alcohol-based chemical industry in 1950's production of alcohol has assumed importance in its own right.

Oil crisis has revived interest in the use of renewable feedstock like alcohol. It is mainly in India that a wide-range of organic chemical products are manufactured on a commercial scale with alcohol as the feedstock. The major downstream products made from ethyl alcohol (industrial alcohol) are acetic acid, acetic anhydride, acetone, butanol, ethyl acetate, polythene, stryene, PVC and synthetic rubber. Large varieties of dyes and dyestuff intermediates are being produced in the country. These

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include basic dyes, disperse dyes, reactived dyes, etc. The indigenous production of dyes is sufficient to meet the demand and only a very small percentage of sophisticated types of dyes are being allowed for import. A large quantity of dyes and dyestuff intermediates are being exported throughout the world.

PESTICIDES

Pesticides including insecticides, fungicides, weedicides, etc. are used extensively in the Indian agriculture and public health. During the last three decades the pesticides industry has made good progress and today more than 57 technical grade pesticides are being manuactured in country. One hundred and twenty five units are currently enaged in manufacture of technical grade pesticides and over 500 units are making formulations. As a result of the increased prodution of pesticides in the country, import of the technical grade pesticides have considerably come down. The current installed capacity of technical grade pesticides is about 1, 25,000 tonnes and expected production for 1991-92 is around 63,800 tonnes.

Export of chemicals were not substantial upto 1987-88 mainly because of the high cost of production of chemicals in India as compared to the international prices. However, in 1988-89, export of chemicals experienced a boom period and the export of all chemicals and allied products touched Rs 1, 248 crore. During 1980-90 export attained an all time figure as Rs 2,118.8 crore. The boom is mainly due to upgradation of technology and support given by government for exports by Indian chemical industry. A target of Rs 3,371 crore has been fixed for export of chemical and allied products during 1991-92.

There are two public sector units, namely, Hindustan Organic Chemicals Ltd. (HOCL) and Hindustan Insecticides Ltd (HIL) in the chemical sector. HOCL was incorporated in December 1960 and started its operation in 1970 at Rasayani, Raigad district, Maharashtra. The complex presently comprises 18 chemical plants manufacturng 25 different chemical intermediates based on sophisticated technologies with a total investment of Rs 80 crore. A phenol project at Cochin has also been set-up. The company has floated a subsidiary company called Hindustan Flurocarbons Ltd for settting up polytetraflurethylene (PTFE) plant in Medak district of Andhra Pradesh. Authorised capital of HOCL is Rs 70 crore. HIL incorporated in 1954, has at present three units at Delhi, Udyogmandal (Kerala) and Rasayani (Maharashtra). The company also has a subsidiary company, namely, the Southern Pesticides Corporation with headquarters at Hyderabad and a factory at Kovur. HIL is engaged in the manufacture of DDT, BHC, Malathion and Endosulfan, the four major pesticides used in the country. Authorised capital of the company is Rs 50 crore.

PHARMACEUTICALS

Indian pharamaceutical industry, over the years, has made tremendous progress and growth rate has been around ten per cent per annum consis-

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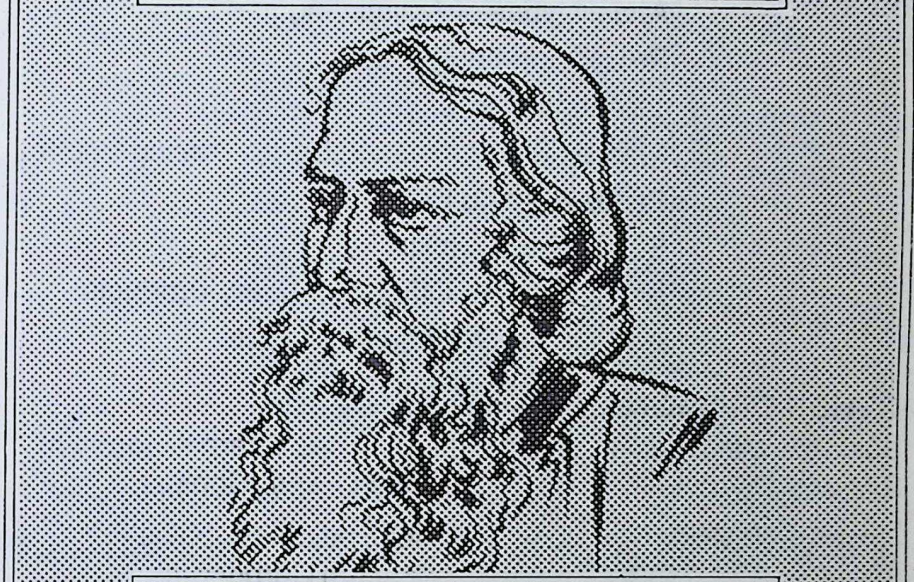
The artist is the lover of Nature, therefore he is her slave and her master.

Rabindranath Tagore



At IPCL, we do not patronise art or the artist. We try to understand it and to make artists more interactive and accessible to more people. One of the things we regularly do is to bring artists together for a few days. Each to do his own thing but meeting and working along with contemporaries. Different backgrounds and styles but united in pursuit of the same elusive thing called self-expression. They leave behind some of their work to be appreciated by the community and carry away — we hope — some happy and fruitful memories. Of their common heritage and diverse viewpoints. And IPCL is proud and happy to arrange this creative endeavour.

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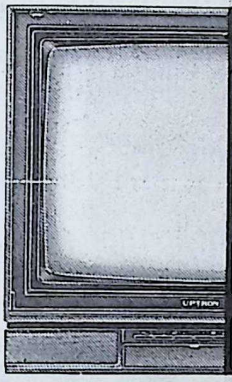

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The fact is, Uptron is much more than televisions. It has progressed to more sophisiticated and hi-tech areas of electronics like office and radio communications, computers and computer education, software, electronic components and industrial electronics. Uptron today has emerged as the most diversified electronics conglomerate with a Rs.200 crore turnover. Its eleven manufacturing units and a nationwide network of marketing and support offices are all committed to "total customer satisfaction". Little wonder then that Uptron's customer list virtually reads like the 'who's who' of Indian industry.

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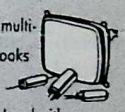
Against this backdrop of multi-faceted success, Uptron looks back with a sense of achievement. And looks ahead with confidence and determination.



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It also has in hand major expansion projects of Cochin Refineries, Bongaigaon Refineries and Petrochemicals and the Hydrocracker Project of IOC at Baroda besides various refinery revamp projects and Oil & Gas Processing projects of ONGC & GAIL.

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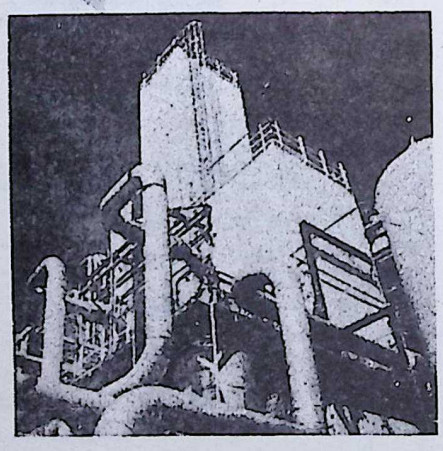

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tently for the last decade. The country has achieved reliability of production in some of the most sophisticated and vital drugs both for domestic and international markets. The present range of production covers a wide area of bulk drugs including antibiotics, vitamins, steroids and hormones, semi-synthetic penicillins, synthetic phytochemicals and biological products besides practically the entire range of foumulations required by the medical profession. The technology adopted for the production of bulk drugs covers intricate and sophisticated technologies such as fermentation technology, synthetic operations and extraction and purification of active principles contained in the plant and animal kingdom. Some of the latest drugs introudced in the country include Fluemquine, Pefloxacin, Ramipiril, Ketorolac, Lisinopiril etc. Production of drugs and pharmaceuticals in 1991-92 was valued at Rs 5,700 crore at 1979-80 prices. Production in 1992-93 is estimated to be Rs 6,565 crore.

Keeping in view its status as a life-line industry, government has sought to promote and encourage the pharmaceutical industry through a special drug policy. In 1986, new policy measures for the drug industry were announced under which top-priority was given to the achievement of high standards in manufacture and quality. In this sector, the government also allows production for cent per cent export without any prior approvals. A wide range of bulk drugs and formulations are being exported to several countries including USA, west European countries, Russia etc. In 1991-92 drugs worth Rs 1,446 crore were exported. India is also importing some drugs. At present there are about 500 bulk drugs which are consumed in the country, of which about 350 are produced indegeneously.

There are about 250 units in the organised sector, five of these are in the public sector (IDPL, HAL, SSPL, BCPL and BIL), and six in the joint sector. About 5,000 units in the small scale sector are engaged in the production of drugs, of these, more than 100 are engaged in the production of bulk drugs.

Indian Drugs and Pharamaceuticals Limited (IDPL) incorporated as a company under the Companies Act, 1956 on 5 April 1961 produces bulk drugs, formulations, surgical instruments and fine chemicals. It has five plants located at Rishikesh for the manufacture of antibiotics, at Hyderabad for the manufacture of synthetic drugs, at Madras for surgical insturments and formulations, at Gurgaon for formulations and at Muzaffarpur for drug and chemical intermediates. IDPl has three subsidiaries set up in association with state governments—Rajasthan Drugs and Pharamaceuticals Ltd., Jaipur; Uttar Pradesh Drug and Pharamaceuticals Ltd, Lucknow and Orissa Drugs and Chemicals Ltd., Bhubaneshwar.

Hindustan Antibiotics Limited incorporated on 1 March 1954 manufactures penicillin, streptomycin, ampicillin, gentamycin, hamycin and aureofungin. It has three subsidiary companies set up in collaboration with state governments, namely: Maharashtra Antibiotics and Pharamaceuticals

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Ltd., at Nagpur, Karnataka Antibiotics and Pharmaceuticals Ltd., at Bangalore and Manipur State Drugs and Pharmaceuticals Ltd., in Manipur.

Government has in its fold three nationalised durg manufacturing companies. Smith Stanistreet Pharamaceuticals Ltd. which was taken over under I (D and R) Act, 1951, on 4 May 1972 was nationalised on 1 October 1977. The company is engaged in the manufacture of formulations only. Bengal Chemicals and Pharamaceuticals Limited was taken over on 15 December 1977 and was nationalised on 15 December 1980. The company has at present four manufacturing units—two in West Bengal, one in Kanpur and one in Bombay. It is engaged in the manufacture of chemicals like sulphuuric acid, alum, chrome, salt, home products like soaps, hair oil, perfumes, etc. and drugs and pharamaceuticals like dapsone, caffeine, ampicillin, doxycycline, etc. and their formulations. Bengal Immunity Limited taken over on 18 May 1978, was nationalised on 1 October 1984. It is engaged in the manufactrue of sera, antivenom and chloroquin phosphate.

PETRO CHEMICALS

The petrochemical industry, which forms a part of the chemical industry, is one of the fastest growing sectors in the Indian economy. The annual growth rate of the industry has been around 12.5 per cent compared to about 10 per cent in the chemical industry and 8 per cent of industrial sector as a whole. Petrochemicals, particularly plastics and fibres, make a substantial contribution to the national exchequer directly by way of excise and customs duty and other taxes. This plastic processing industry offers direct employment to over two lakh persons with the potential of over three lakh persons by 2000 A.D. Starting from the stage of raw material production to the conversion of finished products, employment gets generated in a cascading manner.

In the initial years, since indigenous capacity was small, the growth was mainly import driven. Consequent to the strong leadership provided by the Indian Petrochemicals Corporation Limited (IPCL), a public sector company, and perceiving the greater growth and scope for returns on investments, several private sector companies entered this field. Consumption of all major petrochemicals increased from 7.5 lakh MTs in 1979-80 to 29.73 lakh MTs in 1990-91 and is expected to reach the level of over 70 lakh MTs by 2000 A.D. To meet the growing demand of petrochemicals, Government have sanctioned several mega-petrochemical complexes involving a total investment of about Rs 25,000 crore. This would make India largely self-sufficient in petrochemicals.

Petrochemicals have emerged from being elitist materials to being widely recognised as cost effective, energy saving, versatile materials serving the needs of the common people. Petrochemicals find wide applications in a variety of domestic, industrial and core sector areas. Synthetic fibre supplements natural fibres such as cotton and wool. Synthetic rubber supplements

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natural rubber. Engineering plastics replace costly and scarce metals. Generally speaking, plastics are able to replace any natural resource such as wood, glass, tin etc. for most of the applications.

Exports in petrochemicals have been growing reasonably well. The country has been able to make some exports of polyester staple fibre and LAB. In addition, export of plastic processed goods has increased from Rs. 177 crore in 1989-90 to Rs. 415 crore in 1992-93.

There are three public sector organisations in the petrochemical sector under the administrative control of the Department of Chemicals and Petrochemicals. Indian Petrochemicals Corporation Ltd. (IPCL) is a public sector undertaking incorporated in March 1969. The company has been entrusted with the responsibility of manufacturing and distribution of various petrochemicals like polymers, synthetic organic chemicals, fibres and fibre intermediates. IPCL's mega petrochemical complex at Vadodara was commissioned in 1973 and the Olefin Complex was commissioned in 1978. The company has set up another Olefin complex in Nagothane in Maharashtra. It has been commissioned and the plants are gradually stabilising. The third such complex has recently been approved by the government in Gandhar in Gujarat and is scheduled to be completed by 1996. IPCL is a profit making company which earned a net profit of Rs 132 crore against a turnover of Rs 2,247 crore during 1992-93.

Petrofils Cooperative Ltd. (CL) is a joint venture company of the Government of India and weavers cooperative societies. It produces polyester filament yarn and nylon filament yarn at its two plants located at Vadodara and Naldhari in Gujarat. The company had a turnover of Rs 295 crore during 1992-93. The company had to incur a net loss of about Rs 16 crore in this year on account of adverse business climate due to rise in input costs, high incidence of excise duty on PFY, etc.

The Central Institute of Plastic Engineering and Technology (CIPET) is a training institute set up at Madras by the Government as a registered society with the primary objective to develop skilled manpower and provide technical services to the plastic industry. Besides training, the Institute also caters to the developmental testing, standardisation and quality control, advisory and consultancy services for the plastic industry. To meet the increasing demand for providing training in the field of plastics, CIPET has set up eight extension centres at Ahmadabad, Hyderabad, Bhopal, Lucknow, Bhubaneswar, Imphal, Amritsar and Mysore.

MINERALS

India is richly endowed with minerals. Under the Constitution, mineral rights and the administration of mining laws are vested in the state governments. The Centre however, regulates the development of minerals under the Mines and Minerals (Regulation and Development) Act, 1957 and the rules and regulations framed under it. This statute empowers the Centre to formulate rules for (i) the grant of prospecting licences and mining leases for non-minor minerals; (ii) the conservation and development of minerals and (iii) the

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modification of old leases. The Act, came into force on 1 June 1958. Amendments to this Act were made in 1972 and 1986.

MINERAL RESOURCES

Principal minerals found in the country along with their estimated reserves are given below.

COAL AND LIGNITE

Coal is India's largest mineral resource and presently India is the fifth largest producer of coal in the world. Vast deposits of coal of Gondwana formations occur in West Bengal, Orissa, Bihar, Madhya Pradesh, Andhra Pradesh and Maharashtra. It also occurs in tertiary formations in Assam, Arunachal Pradesh, Meghalaya, Jammu and Kashmir and Nagaland. Total reserves of coal are estimated at 19,602 crore tonnes comprising 16,632 crore tonnes of non-coking coal and 2,970 crore tonnes of coking coal. As compared with India's coal reserves, lignite resources are relatively modest 647 crore tonnes of which the bulk of the reserves are located in and around Neyveli in Tamil Nadu. Significant lignite resources are in Rajasthan, Gujarat, Pondicherry and Jammu and Kashmir.

BAUXITE

Recoverable reserves of all grades of bauxite in the country are estimated at 252.53 crore tonnes. India is fifth in overall global Bauxite resources. Important deposits occur in Andhra Pradesh, Bihar, Goa, Gujarat, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu and Uttar Pradesh.

CHROMITE

Total recoverable reserves of chromite are estimated at 8.8 crore tonnes. Deposits of economic significance occur in Andhra Pradesh, Bihar, Karnataka, Maharashtra, Manipur, Orissa and Tamil Nadu. However, refractory grade reserves of chromite are very meagre.

COPPER

Major and important copper ore producing areas are in Singhbhum district (Bihar), Balaghat district (Madhya Pradesh) and Jhunjhunu and Alwar districts (Rajasthan). In addition small production of copper ore comes from Khammam district (Andhra Pradesh), Chitradurga and Hassan districts (Karnataka), and Sikkim. Recoverable reserves of copper ore in the country are estimated at 28.03 crore tonnes with a recoverable metal content of about 28.51 lakh tonnes.

GOLD

There are three important gold fields in the country namely, Kolar field in Kolar district and Hutti gold fields in Raichur district (both in Karnataka) and Ramgiri gold field in Anantapur district (Andhra Pradesh). Total *in-situ*

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gold ore reserves and resources are estimated at 88 lakh tonnes out of which Hutti account for bulk of gold ore reserves, equivalent to about 50 lakh tonnes of recoverable gold.

IRON ORE

India is favourably endowed with iron ore deposits. Recoverable reserves are estimated at 1,274 crore tonnes of which 960 crore tonnes are haematite and 314 crore tonnes magnetite ore. Haematite mainly occurs in Bihar, Orissa, Madhya Pradesh, Maharashtra, Goa and Karnataka. Large reserves of magnetite ore occur along west coast, primarily in Karnataka with minor occurrences in Kerala, Tamil Nadu and Andhra Pradesh.

LEAD-ZINC

Lead-zinc ore resources occur in Rajasthan, Gujarat, West Bengal, Uttar Pradesh, Andhra Pradesh, Tamil Nadu, Orissa and Sikkim. However 95 per cent of the known resources are localised in south-central Rajasthan and the adjoining parts of Gujarat. Total recoverable ore reserves are placed at 16.75 crore tonnes equivalent to a recoverable metal content of 24.2 lakh tonnes of lead and 78.8 lakh tonnes of zinc.

MANGANESE

Recoverable reserves of manganese ore are estimated at 17.6 crore tonnes. Its deposits occur in Andhra Pradesh, Goa, Gujarat, Karnataka, Madhya Pradesh, Bihar and Orissa. Major producers are Orissa, Madhya Pradesh Maharashtra and Karnataka.

NICKEL

Low grade lateritic nickel ore occurs in Cuttack, Keonjhar and Mayurbhanj districts of Orissa. Main occurrence is in Sukinda belt of Cuttack district. Minor occurrences are also reported from Bihar, Manipur, Nagaland, Maharashtra, Karnataka and Rajasthan. Total nickel ore resources are estimated at 29.4 crore tonnes.

TUNGSTEN

Recoverable reserves of tungsten ore are placed at 239 lakh tonnes with WO_3 contents of 55,000 tonnes. Tungsten ore occurs in Rajasthan, Maharashtra, Karnataka, West Bengal and Uttar Pradesh. The only producing mine in the country is at Degana in Rajasthan.

BARYTES

India possesses huge reserves of barytes. Recoverable reserves are placed at seven crore tonnes. Most of the reserves are located at Mangampet *taluka* in Cuddapah district, Andhra Pradesh. Other minor occurrences are reported from Rajasthan, Tamil Nadu, Himachal Pradesh, Bihar, West Bengal, Maharashtra, Karnataka, Madhya Pradesh and Uttar Pradesh.

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DIAMOND

Total reserves and resources in the country are placed at 12.75 lakh carats. Main diamond bearing areas in India are Panna belt in Madhya Pradesh, Ramallakota and Bangampalle conglomerate rocks in Kurnool district and gravels of Krishna river basin in Andhra Pradesh. Presently, the only diamond pipe under exploitation is at Panna.

DOLOMITE

Total recoverable reserves of dolomite of all grades are placed at 496.7 crore tonnes. Principal producing states for dolomite are Orissa, Madhya Pradesh Gujarat, Bihar, Uttar Pradesh and West Bengal.

FIRECLAY

India has vast resources of fireclay with recoverable reserves of 69.67 crore tonnes. Fireclay occurs in India mainly, associated with coal beds of Gondwana and territory basins. Major fireclay producing states are Bihar, Gujarat, Madhya Pradesh, Orissa, Tamil Nadu, Rajasthan, West Bengal and Andhra Pradesh.

FLUORSPAR

Fluorspar mainly occurs in Gujarat, Madhya Pradesh, Maharashtra and Rajasthan with total recoverable reserves estimated at 21.5 lakh tonnes.

GYPSUM

Total reserves and resources of gypsum in the country are placed at 120 crore tonnes of which recoverable reserves are 23.9 crore tonnes. Bulk of domestic production of mineral gypsum comes from Rajasthan and Tamil Nadu. Jammu and Kashmir, Himachal Pradesh and Gujarat also produce small quantities.

GRAPHITE

Recoverable reserves of graphite estimated at 31 lakh tonnes occur in Kerala, Bihar, Orissa, Rajasthan, Tamil Nadu and Andhra Pradesh.

ILMENITE

Total recoverable reserves of ilmenite are estimated at 8.7 crore tonnes mainly in beach sands on eastern and western coasts of India. Of the workable deposits of this type those found in Kerala, Orissa and Tamil Nadu are important.

KAOLIN

India possesses vast resources of Kaolin and ball clay with kaolin resources being 98.6 crore tonnes. Currently principal producing states for kaolin are Bihar, Gujarat, Rajasthan and West Bengal. Kerala, Haryana, Orissa and

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Madhya Pradesh also produce significant quantities and ball clay is chiefly produced in Rajasthan, Andhra Pradesh and Gujarat.

LIMESTONE

Limestone occurs extensively in the country and is produced in almost all states. Major producing states are Madhya Pradesh, Tamil Nadu, Andhra Pradesh, Gujarat, Bihar, Orissa, Rajasthan and Karnataka. Total recoverable reserves of limestone of all grades are estimated at 7,645 crore tonnes.

MICA

India is world's leading producer of sheet mica and accounts for about 60 per cent of global mica trade. Economic deposits of mica occur in three important belts in Bihar, Andhra Pradesh and Rajasthan. Bihar which has the richest mica belt, accounts for almost 60 per cent of India's output in terms of value. Though large mica resources are existing, estimates have not so far been made because of irregular nature of pegmatites as well as erratic nature of mica mineralisation in pegmaties.

PHOSPHATE MINERALS

Deposits of phosphorites are located in Chhatarpur, Sagar and Jhabua districts of Madhya Pradesh; Udaipur, Jaisalmer and Banswara districts of Rajasthan and Dehradun, Tehri and Lalitpur districts of Uttar Pradesh. Besides, apatite deposits of commercial importance are reported to occur in Bihar, Andhra Pradesh, Rajasthan, West Bengal and Tamil Nadu. Total recoverable reserves of rock phosphate are estimated at 11.5 crore tonnes of all grades and of apatite at 1.3 crore tonnes.

MAGNESITE

India is having large resources of magnesite, which is an important refractory mineral. Total recoverable reserves of magnesite are estimated at 23.3 crore tonnes. Presently, chief sources of magnesite are in the districts of Salem in Tamil Nadu and Almora in Uttar Pradesh. They also occur in Chamoli and Phithoragarh districts of Uttar Pradesh, Mysore and Hassan districts of Karnataka and in Jammu and Kashmir and Kerala.

KYANITE AND SILLIMANITE

Kyanite and sillimanite are other important refractory minerals. Principal sources of supply of kyanite are Singhbhum district of Bihar and Bhadara district of Maharashtra. A small quantity is also produced from Rajasthan. Total recoverable reserves of kyanite are placed at 27 lakh tonnes. Lumpy sillimanite is chiefly supplied by Meghalaya and Maharashtra with a small quantity from Madhya Preadesh. Besides, sillimanite occurs in beach sand deposits of Kerala, Orissa and Tamil Nadu. Total recoverable reserved of sillimanite are placed at 507 lakh tonnes.

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OTHER MINERALS

Other minerals occurring in significant quantities in India are bentonite (Gujarat, Rajasthan, Bihar, Jammu and Kashmir and Tamil Nadu), corundum (Maharashtra, Madhya Pradesh, Karnataka and Andhra Pradesh), calcite (Rajasthan, Madhya Pradesh, Andhra Pradesh and Gujarat), Fuller's earth (Rajasthan, Karnataka and Andhra Pradesh), felspar (Rajasthan Andhra Pradesh, Tamil Nadu and Madhya Pradesh), garnet (Tamil Nadu, Rajasthan and Andhra Pradesh), pyrite (Bihar and Rajasthan), steatite (Rajasthan, Uttar Pradesh, Andhra Pradesh, Tamil Nadu and Bihar), wollastonite (Rajasthan and Gujarat), zircon (beach sands of Tamil Nadu, Kerala and Orissa) and quartz and other silica minerals are wide spread and occur in almost all states. Besides, the country has vast resources of building dimension and ornamental stones such as granite, marble and slate. While granite is chiefly mined in Tamil Nadu, Karnataka, Andhra Pradesh and Rajasthan, marble is extensively mined in Rajsthan, Uttar Pradesh and Gujarat. Slate is produced principally by Madhya Pradesh, Andhra Pradesh and Haryana.

MINERAL EXPLORATION AND DEVELOPMENT

A number of organisations are engaged in exploration and development of mineral resources in India. These include Geological survey of India (GSI); Indian Bureau of Mines (IBM) and a number of public sector undertakings.

GEOLOGICAL SURVEY OF INDIA

Geological Survey of India (1851) functions as the national organisation for earth sciences, entrusted with the task of scientific survey and research for locating mineral resources (except oil, natural gas and atomic minerals), continuous updating of national geoscience knowledge base through geological mapping, specialised thematic studies, airborne geophysical surveys, non-conventional energy resources study, the entire gamut of activities being related to multifarious developmental needs of the country. The Survey operates within the ambit of its Charter (1973) and priorities laid down by the Government. The function of the organisation also encompasses the fields of marinegeosciences mainly for resource appraisal within exclusive economic zone (EEZ) of surrounding oceans, geological studies in Antarctica, geo-technical evaluation of water resources development as well as communication and urban development projects, multitude of environmental geology projects related to geoenvironmental resources appraisal and environmental degradation due to natural processes and anthropogenic activities. The upgradation of geoscientific expertise and induction of modern technology through training, modernisation of laboratory studies and R and D efforts on various realms of geoscience also constitute important missions of Survey. As an organisation with its own diverse local, regional and national projects comprising over 750 geoscientific investigations annually in various parts of the country, GSI also provides information and renders services to various organisations, institutes and agencies within the country as well as abroad.

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The output of these efforts is in the form of scientific and technical reports, professional papers, maps and inventories and various types of publications. In national emergencies arising out of natural hazards like flood, drought, earthquake, landslide and so on, the services of this organisation are readily available towards managemet of risks. With its headquarters at Calcutta, GSI functions through six regions, three specialised wings dedicated to marine, coal and airborne surveys and one training institute spread over 31 bases, with 3,000 scientists and technical professionals and 15,000 supporting personnel.

INDIAN BUREAU OF MINES (IBM)

Indian Bureau of Mines is a multi-disciplinary scientific and technical department, primarily responsible for the conservation and development of mineral resources other than coal, petroleum, natural gas, atomic minerals and minor minerals. It scrutinises mining plans including environment management before granting approval, undertakes inspection and study of mines and beneficiation of ores and mineral and on mining problems. It provides technical consultancy services to the mining industry for the survey and geological appraisal of mineral resources and preparation of feasibility reports of mining projects. It advises Centre and states on all aspects of mineral industry, trade and legislation. It has its headquarters at Nagpur with twelve regional offices and three well equipped ore dressing laboratories and pilot plant.

It functions as data bank for mines and minerals and publishes periodically-related statistical information and publications in the form of monographs, market survey on minerals and bulletin on different subjects. Important publications are Indian Minerals Yearbook (annuallly); Bulletin of Mineral Information (quarterly); Consumption of Non-ferrous Metals in India (Copper Lead-Zinc) (quarterly); Monthly Statistics of Mineral Production and Indian Mineral Industry at a Glance (annuallly).

PUBLIC SECTOR MINING UNDERTAKINGS

Ministry of Mines has administrative responsibility for following undertakings: (i) Hindustan Zinc Ltd. (HZL); (ii) Hindustan Copper Ltd. (HCL); (iii) Bharat Gold Mines Ltd (BGML); (iv) Bharat Aluminium Company Ltd. (BALCO); (v) National Aluminium Comany Ltd. (NALCO); (vi) Mineral Exploration Corporation Ltd (MECL) and (vii) Sikkim Mining Corporation (SMC).

HINDUSTAN ZINC LIMITED

Hindustan Zinc Limited (HZL) was incorporated in January 1966 to take over operations of the erstwhile Metal Corporation of India and to develop mining and smelting capacities for zinc and lead. Beginning with 500 tonnes per day at Mochia in Rajasthan and 3,600 tonnes per year lead smelter at Tundoo in Bihar, HZL has now eight operating mines with a capacity of 11,740 tonnes per day, four smelter with a capacity of 1, 49,000 tonnes per year zinc and

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65,000 tonnes of lead per year. In addition to production of these primary metals it produces a number of by-products such as cadmium, silver, sulphuric acid, phosphoric acid and fertilizers. Based on lead-zinc deposits of Rampura Agucha in Bhilwara district, HZL has successfully commissioned a new open-pit mine at Rampura Agucha and a new smelter at Chanderiya in Chittorgarh district. The total cost of the project has been Rs 703 crore. The smelter has a capcity of 70, 000 tonnes zinc and 35,000 tonnes of lead per annum. Both the mine and smelter are already under operation.

HINDUSTAN COPPER LIMITED

Hindustan Copper Limited (HCL) is the sole producer of indigenous primary copper metal and has been playing a vital role in boosting copper production in the country. It was incorporated in November 1967, to take over from the National Mineral Development Corporation, projects, schemes and studies pertaining to exploration, exploitation, mining and smelting of copper. In 1972, the erstwhile Indian Copper Corporation Limited, a company incorporated in England was nationalised and merged with HCL. HCL has eight operating units-(i) Khetri Copper Complex in Jhunjhunu district of Rajasthan, (ii) Chandmari Copper Project also in Jhunjhunu; (iii) Dariba Copper project in Alwar, Rajasthan, (iv) Indian Copper Complex, Ghatsila, Bihar, (v) Rakha Copper project in Singhbhum, Bihar, (vi) Lapso Kyanite Mines, Singhbhum, (viii) Malanjkhand Copper Poject in Madhya Pradesh and (viii) Taloja Copper Projet in Raigad, Maharashtra. Current annual capacity of HCL is 54,000 tonnes of copper in concentrates and 47,500 tonnes of refined copper. In addition, HCL produces a number of byproducts *viz* gold, silver, nickel, selenium and tellurium.

BHARAT GOLD MINES LIMITED

There are three important gold fields in the country—Kolar Gold Field in Kolar District and Hutti Gold Field in Raichur district (both in Karnataka) and Ramagiri Gold Field in Anantpur district (Andhra Pradesh). The total *in-situ* gold ore reserves and resources are estimated at 88 lakh tonnes. However, Kolar Gold Field Mines which have reached exhaustion level are under phasing out. Hutti gold fields operated by Hutti Gold Mines Co. Ltd., account for bulk of gold ore reserves, equipment to 50.00 lakh tonnes of *in-situ* gold at 6.7 grames per tonne of ore.

BHARAT ALUMINIUM COMPANY LIMITED

Bharat Aluminium Company Limited (BALCO), the first unit in public sector for production of aluminium, was incorporated in November 1965, for setting up an integrated aluminium complex at Korba in Bilaspur district of Madhya Pradesh based on bauxite deposits in Amarkantak/Phutkapahar area. The plant has an installed capacity of two lakh tonnes per annum and was commissioned in phases between 1978-1984. A 270 mw captive thermal power station was commissioned in 1987-88 for facilitating operations of

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Korba complex by reducing dependence on Madhya Pradesh Power Supply Board. BALCO has been granted mining lease for Mainpat bauxite deposit in Sarguja district of MP.

NATIONAL ALUMINIUM COMPANY LIMITED

National Aluminium Company Limited (NALCO) is the biggest integrated bauxite/alumina/aluminium project in Asia based on extensive bauxite deposits in Orissa. It was incorporated on 7 January 1981. The project includes a 24 lakh tonnes per year bauxite mine at Panchpatmali (Koraput), eight lakh tonnes per annum, alumina plant at Damanjodi (Koraput) 2, 18,000 tonnes per annum aluminium smelter at Angual (Dhenkanal) and port facilities at Vishkhapatana (Andhra Pradesh) for export of alumina and import of caustic soda. NALCO entered export market of alumina in January 1988 and aluminium metal in September 1988. Foreign exchange earnings through alumina and aluminium exports in 1991-92 was about Rs 386 crore.

MINERAL EXPLORATION CORPORATION LIMITED

Mineral Exploration Corporation Limited (MECL) was registered in 1972 to undertake detailed mineral exploration for assessing mineral reserves in the country. Besides, the Corporation is engaged in mine construction, geotechnical work at dam sites and drilling and construction of tubewells. The Corporation with its headquarters at Nagpur, carries out detailed mineral exploration on behalf of the Government, for public and private sector enterprises and organisations, state governments etc., on contractual basis. Since its inception in 1972, the company has established 3,992.2 crore tonnes of categorised reserves of different minerals and ores in about 340 turn key projects.

SIKKIM MINING CORPORATION (SMC)

Sikkim Mining Corporaion was established as a joint venture of the Centre and Sikkim Government in 1960 by a proclamation of the erstwhile 'Sikkim Darbar'. The Corporation produced low-grade pollymetallic complex ore from it's Bhotang mines in Himalayan areas containing copper-zinc-lead sulphides which is treated in this beneficiation plant for production of copper-lead-zinc concentrates. Copper concentrates are sold to HCL and zinc concentrates to HZL for processing in their smelters.

MINERAL AND METAL PRODUCTION

Production of important minerals during last five years is given in table 20.9 with latest production data estimates for 1992-93. Production of important non-ferrous metals during the last five years is shown in table 20.10.

SCIENCE AND TECHNOLOGY

Under the S and T programme, the Minisry of Mines sponsors research and development activities conducted in its various organisations as well as in the

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TABLE 20.9 PRODUCTION OF IMPORTANT MINERALS 1988-89 TO 1992-93

Mineral	Unit of Quantity	1988-89		1989-90		1990-91		1991-92		1992-93 (e)	
		Qty.	Value	Qty	Value	Qty	Value	Qty.	Value	Qty	Value.
1	2	3	4	5	6	7	8	9	10	11	12
ALL MINERALS (Value)			14, 805.30		17,335.81		17,875.61		18,460.04		20,179.59
FUELS											
Coal	MT	194.4	5,211.00	200.9	5,680.22	211.6	5,918.41	225.9	6,812.01	247.3	8,747.69
Lignite	MT	12.6	284.33	12.8	300.56	14.1	358.91	15.8	401.67	15.9	429.16
Natural Gas 1	MCM	9, 250.0	1, 286.59	11,172.0	1,578.56	12,869.0	1,832.49	12,080.0	1,755.62	13,252.0	1,926.12
Petroleum (Crude)	MT	32.0	5,972.02	34.1	7,202.58	33.0	7,121.66	30.4	6,571.22	27.3	5,984.83
METALLIC MINERALS											
Bauxite	Tht	4,395.3	39.90	4,833.8	50.30	4,977.0	60.68	4,737.9	71.20	4,986.6	72.80
Chromite	Tht	926.1	122.42	1,050.4	144.33	940.0	155.83	1,087.2	198.13	1,312.0	239.05
Copper Ore	Tht	5,132.0	135.15	5,202.6	153.57	5,249.3	153.56	5,201.2	153.26	5421.7	165.91
Gold	Kg	2,011.0	65.01	2,163.0	89.86	2,208.0	89.68	2,032.0	82.49	1,875.0	81.59
Iron ore	Th.t	49, 911.0	372.35	55,437.0	511.88	54,991.0	535.70	57,465.0	598.42	57,599.0	690.67
Lead Conc.	Tonnes	40,485.0	29.44	45,338.0	36.21	43,977.0	35.75	59,515	50.00	50.766	4.07
Manganese Ore	Th.t	1,386.3	47.53	1,457.4	55.52	1,492.0	75.24	1552.0	92.69	1,699.0	101.43
Silver	Kg	38,928.0	23.14	40,540.0	27.14	34,983.0	23.54	37984.0	25.54	43,157.0	29.01
Zinc Conc.	Tonnes	1,21,993.0	71.39	1,35,369.0	91.95	1,36,719.0	93.26	2,99,433	171.5	27,101	15.2
NON-METALLIC MINERALS											
Apatite	Th.t	12.9	0.40	14.4	0.45	15.8	0.38	16.6	0.35	16.8	0.40
Phosphorite	Th.t	707.9	48.30	683.8	53.91	646.0	50.85	520.1	39.03	390.9\8	30.95
Asbestos	Tonnes	39, 523.0	1.47	41,023.0	1.29	37,855.0	1.66	38,845.0	1.77	40.023.0	2.15
Barytes	Th.t	513.0	7.39	645,.2	16.53	509.4	20.24	684.3	23.68	401.1	12.63
Diamond	Carat	13,612.0	3.96	16,473.0	5.32	17,401.0	6.10	18,247.0	8.60	20,792.0	9.64
Dolomite	Th.t	2,261.4	19.50	2,542.9	21.62	2,543.6	23.55	2,729.6	26.46	2,733.8	28.16
Fire clay 2/	Th.t	624.4	3.51	548.5	3.05	455.8	2.59	489.7	2.89	479.8	3.02
Fluorite (Graded)	Tonnes	5, 715.0	1.45	4, 982.0	1.21	7,423.0	1.28	3,631.0	0.84	4,107.0	1.01

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TABLE 20.9 (Contd.)

Fluorite (Conc.)	Tonnes	17, 085.0	7.19	24,241.0	10.67	25,045.0	11.64	31,611.0	15.28	21,761.0	10.20
Gypsum	Th.T	1,470.5	9.41	1,665.5	12.43	1,589.0	14.35	1,575.2	15.40	1,125.2	12.60
Kaolin	Th.T	615.5	11.02	653.1	14.21	692.6	15.52	694.0	19.85	661.4	22.22
Kyanite	Tonnes	39,607.0	3.45	40,583.0	3.66	36,750.0	2.98	19,097.0	1.62	8,957.0	0.85
Sillimanite	Tonnes	21,207.0	3.47	16,516.0	3.11	13,045.0	2.40	13,852.0	2.30	14,571.0	2.30
Limestone	Th.T.	65,314.0	306.42	66,613.0	352.48	69,001.0	324.79	76,965.0	368.80	78,876.0	383.31
Live kankar	Th.T	172.0	1.54	66.6	0.50	61.3	0.49	124.4	1.04	134.7	1.06
Limeshell	Th.T	122.7	1.85	125.1	2.07	116.8	1.84	117.8	1.66	108.2	1.59
Calcareous Sand	Th.T	155.0	1.03	113.1	0.79	199.4	1.39	100.5	0.69	81.0	0.57
Magnesite	Th.T	503.3	23.65	504.3	28.02	550.4	29.71	561.7	28.16	618.3	33.76
Mica (crude)	Tonnes	3, 949.0	2.87	4,140.0	3.11	3,806.0	2.80	3,353.0	2.35	3,026.0	2.22
Pyrites	Th.T.	38.0	1.52	87.3	3.50	105.5	4.22	130.6	5.23	142.9	5.96
Steatite	Th.T	418.9	6.99	444.3	10.20	426.2	11.37	426.9	10.76	374.8	10.61
Other Major Mineral (Value)			28.60		36.80		30.14		41.06		43.15
Minor Minerals Value			650.04		828.20		828.20(R)		828.20(R)		828.20(R)

M.T. : Million Tonnes (R): Previous years figures repected as current data have not been received yet.
Th.t. : Thousand Tonnes
M.C.M. : Million Cubic Metre
Kg. : Kilogram
1) : Relaties to gas utilized
2/ : Excludes the production of fireclay, if any, recovered incidental to coal mining.
(e) : Comprise the recorded figures upto August 1992 and estimated for September 1992 to March 1993.
NOTE: (1) : The value figures pertain to the pit head value.
(2) : Data are based on the returns received under MCDR 1958 and 1988 (revised) except Coal, Lignite, Petroleum (crude), Nagural gas and minor minerals.

SOURCE: a) Coal: Coal Controller, Calcutta.
b) Lignite: Neyveli Lignite Corporation LTd., and Gujarat Mineral Development Corporation Ltd.
c) Petroleum (crude) and Natural Gas : Ministry of Petroleum and Natural Gas.
d) Minor Minerals: State Governments.

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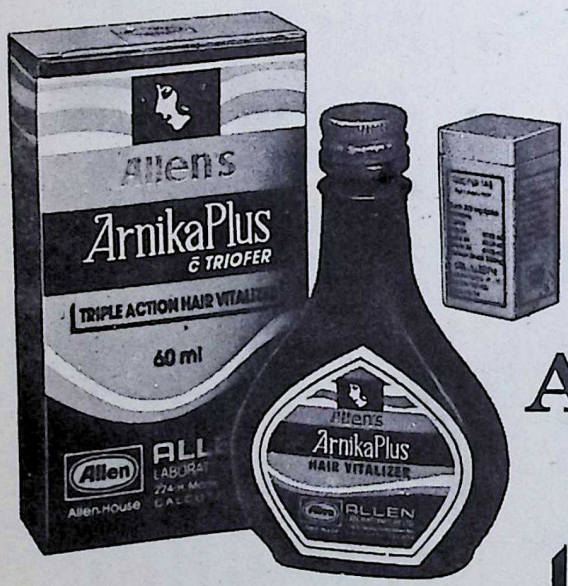

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TABLE : 20.10 PRODUCTION OF NON-FERROUS METALS 1988-89 TO 1992-93.

Metals	Unit of Quantity	1988-89	1989-90	1990-91	1991-92	1992-93
Aluminium	Tonnes	357,392	427,233	449,485	513,276	5,14,165
Copper (Blister)	"	44,815	42,500	40,403	46,765	47,047
Copper (Electro-lytic wire bolls)	"	26,173	28,151	26,633	27,202	25,623
Gold	Kgs.	2, 011	2,163	2,208	2,005	1,875
Lead (Primary)	Tonnes	18,594	23,015	24,919	31,683	37,300
Lead (Secondary)	"	10, 436	13,267	14,772	16,709	28,000
Zinc (Ingots)	"	73,369	75,410	73,970	102,047	125,000

e = estimated

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national laboratories and educational institutions. The basic approach of this programme include identification of technical gaps in industrial minerals and non-ferrous metals sector and help evolve technical development to cover the gap as well as to venture into new areas. Important components of this programme included establishment of Jawaharlal Nehru Aluminium Research Development and Design Centre at Nagpur, IBM Ore Dressing Laboratory and Pilot Plant at Nagpur, Non-Ferrous Material Technology Development Centre at Hyderabad and Kolar Institute of Rock Mechanics and Ground Control at Kolar.

GEOLOGICAL STRUCTURE

The geological regions broadly follow the physical features and may be grouped into three regions: The Himalayas and their associated group of mountains, the Indo Ganga plain and the Peninsular Shield. The Himalayan mountain belt in north and the Naga-Lushai mountain in east are the regions of mountain building movement. Most of this area, now presenting some of the most magnificent mountain scenery in the world, was under marine conditions about 60 crore years ago. In a series of mountain building movements commencing about seven crore years ago, the sediments and the basement rocks rose to great heights. The weathering and erosive agencies worked on these to produce the relief seen today. The Indo-Ganga plains are a great alluvial tract that separates the Himalayas in the north from the Peninsula in south. The Peninsula is a region of relative stability and rare seismic disturbances. Highly metamorphosed rocks of the earliest periods, dating back as far as 380 crore years, occur in the area; the rest being covered by the coal-bearing Gondwana formations, lava flows beloning to the Deccan Trap formation and younger sediments.

HANDICRAFTS

Handicrafts assume a special significance in the country's economy in terms of employment generated and foreign exchange earned. It provides employment to more than 40 lakh artisans. A large number of handicrafts artisans belong to weaker sections. Handicrafts comprise a wide range of artistic products like woollen carpets and durggets, artmetalwares, hand printed textiles, woodwares, *zari*, ivory products etc. These are principal items of handicrafts which earn foreign exchange. The value of exports of handicrafts (excluding gems and jewllery) increased from Rs 503.24 crore in 1985-86 to Rs 1, 810 crore in 1991-92 and further to Rs 2, 209 crore in 1992-93 (upto February 1993)

Annual plan of handicrafts for 1993-94 in the Central sector has been approved for Rs 40 crore. The main objective of the Eighth Plan is to enhance opportunities of income and employment from crafts as an economic activity and to harness the export potential of crafts as a measure of increasing the foreign exchange earnings of the country. Eighth Plan also aims at setting-up of around 150 craft development centres in craft

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concentration areas to extend inputs such as raw materials, common facilities, design development and other related services to craftpersons.

SMALL INDUSTRIES DEVELOPMENTS ORGANISATIONS

A new department called Small Scale Industries and Agro and Rural Industries has been created in the Ministry of Industry headed by a Secretary to the Government. The office of the Development Commisioner functions as the nodal agency for formulating, coordinating and monitoring the policies and programmes for promotion and development of small scale industries in the country. It maintains close liaison with other ministries, Planning Commission, state government financial institutions, voluntary organisations and other agencies concerned with development of small scale industries. It provides a comprehensive range of facilities and services including consultancy in techno-economic, managerial aspects, training, common facility services, common processing and testing facilities, tooling facilities and marketing assistance etc., to small scale units. The office of the DC (SSI) commonly called SIDO (Small Industries Development Organisation) provides these services through a network of 28 small industries service institutes (SISIs), 30 branch institutes, four regional testing centres, two central footwear training centres, two production centres and 15 field testing stations in areas of concentration of specific types of industries.

In addition, there are also specialised institutions like Central Institute of Tool Design, Hyderabad, Central Institute of Hand Tools, Jalandhar, Hand Tool Design Development and Training Centre, Nagpur, Central Tool Room and Training Centres, Ludhiana and Calcutta, Institute for Design of Electrical Measuring Instruments (IDEMI), Bombay, Integrated Training Centre Nilokheri, National Institute of Small Industry Extension Training (NISIET), Hyderabad, National Institute for Entrepreneurship and Business Development (NIESBUD), New Delhi, Product-Cum-Process Development Centres for Foundary and Forging at Agra and for Sports Goods and Leisure Time Equipment at Meerut and Electronic Service and Training Centre, Ramnagar (UP) which provide training and technical services in specialised fields.

Besides three Indo-German Tool Room at Indore, Ahmadabad and Aurangabad and two Indo-Danish Tool Rooms at Bhubaneshwar and Jamshedpur are being set up. Efforts continue to augment the facilities provided in the various institutes/centres under the SIDO especially those located in the backward areas.

VILLAGE AND SMALL SCALE INDUSTRIES

Modern small scale industries and unorganised traditional industries are known as village and small industries (VSI). This sector is divided into eight sub-sectors. Small scale industries and powerlooms represent modern small industries and *Khadi*, village industries, handlooms, sericulture, handicrafts and coir represent the traditional industries.

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DIRECTORATE GENERAL OF TECHNICAL DEVELOPMENT

The Directorate General of Technical Development (DGTD) is the principal advisory organisation of the Government of India on all matters relating to industrial development in the country.Being a nodal technical advisory body it has changed its orientation to a promotional and developmental agency.

The new industrial policy aims to dismantle the regime of controls in order to provide the much needed freedom to entrepreneurs to set up projects on the basis of their best commercial judgement. DGTD is a multi-disciplinary technical organisation geared to provide the facility for inter-action between various technological inputs and thus make available unified advice at one point in accelerating the development process.

To facilitate implementation of the new industrial and foreign investment policies, DGTD organises regional seminars in various states. The objective of the seminars is to focus attention on the opportunities available in the concerned state based upon local raw-materials and resources in order to promote industrial development and to convey the message of liberalisation to all concerned with the implementation and use of new industrial policies including the state government industrial promotion agencies as well as entrepreneurs.It also gives advise to entrepreneurs in the selection of product, choice of technology, availability of capital equipment as well as other inputs for setting up of industries.

An Industrial Technology Data Bank has been set up in DGTD with the object of collecting, analysing, storing and disseminating information on industrial technologies available abroad and within the country. The data is being stored on a computer having user-friendly programming. It contains detailed description and techno-economic parameters on alternative routes of technologies as well as different sources in order to help the user in choosing a technology which is best suited to him for achieving international competitiveness.

Various publications are being brought out by DGTD. The Handbook of Indigenous Manufacturers Both Engineering and Non-Engineering Items serves as a major buyers' guide for procurement of items manufactured within the country. Industrial profiles, monographs, industrial reviws, etc, are also published and these are of immense help to the entrepreneurs to take investment decisions. Reports of Technology Advisory Groups in different sectors are also being brought out to help industries in planning their long-term technology strategy. In order to share current developments and exchange of views with the industry on technology trends, production and analysis and policy changes, a quarterly newsletter has also been started of which seven issues have already been brought out. The access to latest production data on 252 industries which play an important role in working out the industrial index is available in order to provide the required transparency.

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21 Commerce

TRADE links of India are practically with all the countries of the world. Exports cover over 7, 500 commodities to about 190 countries while imports from about 140 countries account for over 6,000 commodities. From April 1987 onwards, India adopted Customs Cooperation Council's harmonized commodity description and coding system for its trade classification with suitable extension to meet domestic needs by which it is now possible to record trade information at a much more disaggregated commodity level. Exports cover a wide range of items of agricultural and industrial sectors as also various handicrafts, handloom, cottage and craft articles. Project exports which included consultancy, civil construction and turn-key contracts have also made a significant progress in the recent years.

Similarly, there has been a substantial increase in the imports on account of development and needs of the economy. Bulk of imports comprises items like petroleum and petroleum products, fertilizers, etc., essential for domestic consumption, pearls, precious and semi-precious stones for export production and capital goods, raw-materials, consumables and intermediates for industrial production and technological upgradation. In the last few years, the country has been having a large adverse balance of trade on account of heavy imports on one hand and steep hike in global prices of major imports on the other. This has been substantially reduced in 1991-92.

VALUE OF FOREIGN TRADE

Total turnover of foreign trade (imports plus exports including re-exports) has been steadily rising since the beginning of the planning era in India. Value of trade increased from Rs 1,219 crore in 1950-51 to Rs 1,16,273.34 crore in 1992-93. Value of imports, exports, total trade and balance of trade for selected years since 1950-51 is given in table 21.1

TABLE 21.1 FOREIGN TRADE OF INDIA

(Rs crore)

Year	Imports	Exports	Total Value of foreign trade	Balance of trade
1950-51	608.04	606.10	1, 214.14	-1.94
1960-61	1, 121.62	642.39	1,764.01	-479.23
1970-71	1, 634.20	1, 535.16	3,169.36	-99.04
1980-81	12, 549.15	6,710.71	19,259.86	-5,838.44

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TABLE 21.1 (Continued)

1981-82	13,607.55	7,805.90	21,413.45	-5,801.65
1982-83	14,292.74	8,803.36	23,096.10	-5,489.38
1983-84	15, 831.46	9, 770.71	25, 602.17	-6.060.75
1984-85	17, 134.20	11, 743.68	28,877.68	-5,390.52
1985-86	19, 657.69	10,894.59	30,552.28	-8,703.10
1986-87	20,095.76	12, 451.95	32,547.71	-7,643.81
1987-88	22, 243.74	15,673.66	37,917.40	-6,570.08
1988-89	28, 235.22	20, 231.50	48, 466.72	-8,003.72
1989-90	35, 415.90	27, 681.47	63,097.37	-7,734.43
1990-91	43, 192.86	32, 553.34	75,746.20	-10,639.52
1991-92	47, 850.84	44,041.81	91,892.65	-3,809.03
1992-93[1]	62, 922.80	53,350.54	1, 16,273.34	-9,572.26

1. Provisional

Source: DGCI&S, Calcutta

There had been significant export growth during the Seventh Plan. Exports have increased at an annual average growth of about 20 per cent. Imports on the other hand have increased at the annual average growth of 16 per cent. The trade deficit averaged at Rs 7,743 crore.

During 1991-92, India's exports amounted to Rs 44,042 crore as compared to Rs 32,553 crore during 1990-91, thereby registering an increase of 35.3 per cent in rupee terms. However there was a decline of 1.5 per cent in dollar terms. At the same time, India's imports at Rs 47,851 crore were higher by 10.8 per cent as compared to Rs 43,193 crore during 1990-91. In dollar terms, India's imports decreased by 19.4 per cent. India's trade deficit declined by 64.2 per cent from Rs 10, 640 crore during 1990-91 to Rs 3,809 crore during 1991-92.

During 1992-93 India's total exports amounted to Rs 53,350 crore as compared to Rs 44,042 crore during 1991-92 registering a growth of 21.1 per cent. Exports to General Currency Area (GCA) during 1992-93, amounted to Rs 51, 380 crore as compared to Rs 39,609 crore during 1991-92 showing an increase of 29.7 per cent in rupee terms. In dollar terms, exports to GCA increased by 10.4 per cent. Exports to Rupee Payment Area (RPA) countries during 1992-93 amounted to Rs 1,970 crore as compared to Rs 4, 433 crore during 1991-92 registering a decrease of 55.6 per cent in rupee terms and 62.2 per cent in dollar terms. At the same time, imports increased from Rs 47, 851 crore during 1991-92 to Rs 62,923 crore during 1992-93 thereby registering a growth of 31.5 per cent in rupee terms. In dollar terms, imports increased by 11.9 per cent. In rupee terms, the trade deficit was Rs 9, 572 crore as against Rs 3, 809 crore during 1991-92. In dollar terms, trade deficit was US dollar 3,306 million in 1992-93.

DIRECTION OF EXTERNAL TRADE

India has export and import trade links with all the regions of the world, both developing and developed. Economic and trade relations are being

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developed through bilateral negotiations and various promotional activities. During 1992-93 exports suffered due to collapse of erstwhile USSR, recession in the major industrial countries and sluggish growth in world trade.

Direction of India's exports and imports in respect of different regions/ sub-regions during 1990-91 to 1992-93 is outlined in table 21.2.

During 1992-93, Asia and Oceania constituted a major market for Indian products accounting for about 37 per cent of the total exports followed by West Europe, America, East Europe and Africa. In terms of individual countries, the biggest market for India's exports are USA, Japan, Germany, UK and Hong Kong.

As regards imports, during 1992-93, India's biggest suppliers were Asia and Oceania, followed by West Europe, America, Africa and East Europe. In terms of individual countries, India's biggest suppliers were Belgium, Germany and UK (in the West Europe region) and Japan, Australia, Singapore (in Asia and Oceania) and USA.

EXPORTS

Exports have not grown appreciably, but have also witnessed an increasing diversification over the years. The increase has been well spread over a number of commodities such as engineering goods, chemicals and related products, gems and jewellery, textiles, handicrafts, leather and leather manufactures, marine products, sports goods, carpets and processed food, etc. Emphasis has also been laid on exports of traditional items such as agriculture and allied products and ores and minerals. Export of principal commodities during 1990-91 to 1992-93 as compared to the corresponding period of previous year is given in table 21.3.

IMPORTS

Imports are effected to meet the essential requirements of domestic consumption, investment and production. Government has made efforts to make available all essential imports, while at the same time cutting down non-essential imports. A major proportion of total imports of India consist of bulk imports accounting for roughly 32 per cent of total imports. These include fertilizers, newsprint, petrol and petroleum products. The other principal imports consist of pearls, precious and semi-precious stones, machinery, project goods, medicinal and pharmaceutical products, organic and inorganic chemicals, coal, coke and briquettes, artificial resins, etc. The items of import which have registered a decline during the recent period include cereals, edible oil, pulp and waste paper, non-ferrous metals, etc. The details of Indian imports of principal commodities during 1989-90 to 1992-93 is given in table 21.4. The import growth during 1991-92 was low due to severe import compression measures undertaken by the Government in view of the critical foreign exchange reserves position.

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TABLE 21.2 DIRECTION OF INDIA'S FOREIGN TRADE

(Rs crore)

Region/Sub Region		EXPORTS			IMPORTS		
		1990-91	1991-92	1992-93[1]	1990-91	1991-92	1992-93[1]
I.	WEST EUROPE	9,946.21	13,229.49	16,890.79	14,084.66	15,393.79	21,275.32
a)	European Common Market	8,950.75	11,897.36	15,165.54	12,680.41	13,967.68	18,976.37
b)	European Free Trade Area Countries	865.97	1,156.54	1,310.97	1,225.42	1,185.38	2,074.02
c)	Other West Europe	129.49	175.59	414.28	178.83	240.73	224.93
II.	ASIA AND OCEANIA	9,775.49	15,588.49	19,550.17	17,747.60	21,117.68	27,835.85
III.	AFRICA	848.41	1,388.17	2,077.37	1,139.20	2,423.87	3,993.08
IV.	AMERICA	5,226.21	7,969.22	11,144.83	6,844.24	6,461.00	8,201.31
a)	North America	5,077.07	7,666.59	10,658.71	5,803.93	5,609.78	7,285.43
b)	South America	57.81	150.06	244.20	810.36	662.77	748.02
c)	Other America	91.33	152.57	241.92	229.95	188.45	167.86
V.	EAST EUROPE	5,819.22	4,813.63	2,275.56	3,377.15	2,444.41	1,609.87
GRAND TOTAL		32,553.34	44,041.81	53,350.54	43,192.86	47,850.84	62,922.80

1. Provisional
Source: DGCI&S, Calcutta.

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TABLE 21.3 EXPORT OF PRINCIPAL COMMODITIES

(Rs crore)

S.No.	Commodities	1990-91	1991-92	1992-93	Percentage change 1991-92/ 1990-91	Percentage change 1992-93/ 1991-92
1.	Plantations	1,322.25	1,546.73	1,338.91	17.0	-13.4
2.	Agricultural and Allied Products	2,890.71	4,585.22	5,513.33	58.6	+20.2
3.	Marine products	960.01	1,442.72	1,743.14	50.3	+20.8
4.	Ores and Minerals	1,735.43	2,291.98	2,145.71	32.1	-06.4
5.	Leather and Manufactures	2,600.25	3,127.76	3,692.48	20.3	+18.1
6.	Sports Goods	66.09	77.68	101.17	17.5	+30.2
7.	Gems and Jewellery	5,240.71	6,750.11	8,839.11	28.7	+30.9
8.	Chemicals and related products	3,077.32	4,736.35	5,418.53	53.9	+14.4
9.	Engineering Goods	3,442.28	4,821.82	6,465.50	40.1	+34.1
10.	Electronics and Computer software	434.32	686.44	634.63	58.0	-07.5
11.	Project goods	161.18	46.12	39.99	-71.4	-13.3
12.	Textiles	7,121.31	10,330.97	12,872.45	45.1	24.6
13.	Handicrafts	401.70	595.40	772.48	48.2	29.7
14.	Carpets	670.52	1,238.45	1,538.87	84.7	24.3
15.	Petroleum Products	937.80	1,022.27	1,379.25	09.0	34.9
16.	Unclassified exports	639.61	435.85	659.39	-31.9	51.3
	GRAND TOTAL	32,553.34	44,041.81	53,350.54	35.3	21.1

Source : DGCI&S, Calcutta.

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Table 21.4 IMPORT OF PRINCIPAL COMMODITIES

(Rs crore)

Commodities	1990-91	1991-92	1992-93	Percentage change 1991-92/ 1990-91	Percentage change 1992-93/ 1991-92
A. Bulk Imports	18,983.09	20,919.97	27,628.06	10.2	32.1
i) Cereals	182.30	173.42	924.22	-04.9	432.9
ii) Fertilizer	1,766.12	2,327.86	2,827.05	31.8	21.4
iii) Newsprint	285.70	342.91	321.27	20.0	-06.3
iv) Petroleum and Petroleum products	10,816.11	13,123.12	17,152.99	21.3	30.7
v) Edible oil	325.79	247.79	172.38	-23.9	-30.4
vi) Pulp and waste paper	457.98	298.69	400.35	34.8	34.0
vii) Non-ferrous metals	1,101.93	837.54	1,118.86	-24.0	33.6
B. Pearls, precious and semi-precious stones	3,737.60	4,824.52	7,010.54	29.1	45.3
C. Machinery	7,612.11	6,456.66	9,033.20	-15.2	39.9
D. Project Goods	2,556.24	3,621.47	3,460.12	41.7	-04.5
E. Others	10,303.82	12,028.22	15,790.88	16.7	31.3
i) Organic and inorganic chemicals	2,288.71	3,393.53	4,241.67	48.3	25.0
ii) Coal, coke and briquettes	789.41	1,036.37	1,379.08	31.3	33.1
iii) Medicinal and pharmaceutical products	468.41	545.57	713.01	16.5	30.7
iv) Artificial resins etc.	1,094.56	1,400.29	1,206.35	27.9	-13.8
TOTAL IMPORTS	43,192.86	47,850.84	62,922.80	10.8	31.5

Source : DGCI&S, Calcutta.

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EXPORT PROMOTION

The Government has undertaken numerous institutional, infrastructural, fiscal, industrial and trade policy measures for export promotion. The aim is to promote exports to the maximum while giving due consideration to domestic requirements. The Cabinet Committee on Trade and Investment (CCTI) with the Prime Minister as its Chairman provides a forum for coordinated consideration of various proposals in regard to export promotion, export provision and performance. The Board of Trade constituted by the Ministry of Commerce in 1989 has been reconstituted with the purpose of ensuring a continuous dialogue with trade and industry in respect of major developments in the field of international trade. A States Cell has been set up in the Ministry to interact with the state governments/union territories, for devising ways to increase states' participation in the country's export promotion efforts.

The various export processing zones set up by the Ministry of Commerce are being constantly monitored in order to improve their performance. A network of Inland Container Depots (ICDs) and Container Freight Stations (CFSs) is being created in the country to facilitate door-to-door movements of cargo in containers. The Trade Development Authority and the Trade Fair Authority of India (now merged and renamed as India Trade Promotion Organisation) are engaged in exhibition of Indian products in different parts of the world and in conducting periodical surveys and reviews with the aim of exploring new markets for our exporters.

To overcome the unprecedented balance of payments and foreign exchange crisis during 1990-91, the government has undertaken a major programme of liberalisation in all the major sectors of economy namely trade, industry, fiscal and monetary sectors. Downward adjustments in the value of rupee was undertaken along with introduction of partial convertibility, followed by introduction of a unified market determined exchange rate. A new export-import policy for the period 1992-97 has been adopted for promoting exports. Trade has been made veritably free from discretionary controls subject only to a Negative List of Exports and Negative List of Imports. Under the policy, raw materials, components, intermediates and capital goods required for export production are provided at near international prices. Steps have been taken to provide larger finances to the export sector at lower rates of interest. To promote technological upgradation and greater competitiveness, the peak tariff levels have been reduced in two stages from a maximum of 150 per cent to 85 per cent. In view of the large export potential that exists in agriculture and allied sectors, special emphasis is being made on these sectors through measures such as introduction of a scheme of Export Oriented Units for them. Besides, 34 'Extreme Focus Sectors' have been identified for a special export thrust abroad.

In the sphere of industrial policy, greater freedom in making investment decisions has been provided keeping in view the objective of increasing exports. The industrial sector has been considerably delicenced to encourage greater domestic production and the policy regarding foreign investment has

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been liberalised substantially. The provisions in the Foreign Exchange Regulation Act (FERA) have also been correspondingly amended.

EXPORT AND IMPORT POLICY FOR 1992-97

A new export-import policy for the period April 1992 to March 1997 has been announced. A revised edition was brought out on 31 March 1993. The direction of the new policy is towards fewer restrictions and greater freedom to trade from administrative control. The new Policy is expected to provide a substantial boost to our exports particularly in the field of agriculture and services, and to lay a path for self sustained growth of the economy. The main objectives of this policy are: (i) to establish framework for globalisation of India's foreign trade; (ii) to promote productivity, modernisation and competitiveness of Indian industry with more emphasis on agriculture and services sector thereby to enhance export capabilities; (iii) to encourage the attainment of internationally accepted standards of quality and thereby enhance the image of India's products abroad; (iv) to augment India's exports by facilitating access to raw materials, intermediates, components, consumables and capital goods from the international market; (v) to promote efficient and internationally competitive import substitution and self-reliance under a deregulated framework for foreign trade; (vi) to eliminate or minimise quantitative licensing and other discretionary controls in the framework of India's foreign trade; (vii) to foster the country's research and development and technological capabilities and (viii) to simplify and streamline the procedures governing exports and imports.

IMPORT POLICY

In terms of the new policy, all items other than those mentioned in the Negative List can be imported freely. Import of items appearing in the Negative List other than those import of which is prohibited or canalised can be made against a specific licence and subject to conditions laid down. Capital goods, raw materials, intermediates, components, consumables, spare parts, accessories, instruments and other goods may be imported without any restriction except to the extent such imports are regulated by the Negative List of Imports or any other provision of this policy or any other law for the time being in force. Such items, if importable without any restriction, may be imported by any person whether he is an actual user or not. However, if such imports require a licence, the actual user alone may import such goods unless the actual user condition is specifically dispensed with by the licensing authority.

Second-hand capital goods and any other second-hand goods shall not be imported unless permitted by this policy or in accordance with a licence issued on its behalf. Import of certain specified capital goods on re-export basis is allowed without a licence.

Imported capital goods or parts thereof may be sent abroad for repairs and re-imported without a licence. However, in case indigenous capital goods having imported components are sent abroad for repairs, a licence would be required for such export on re-import basis.

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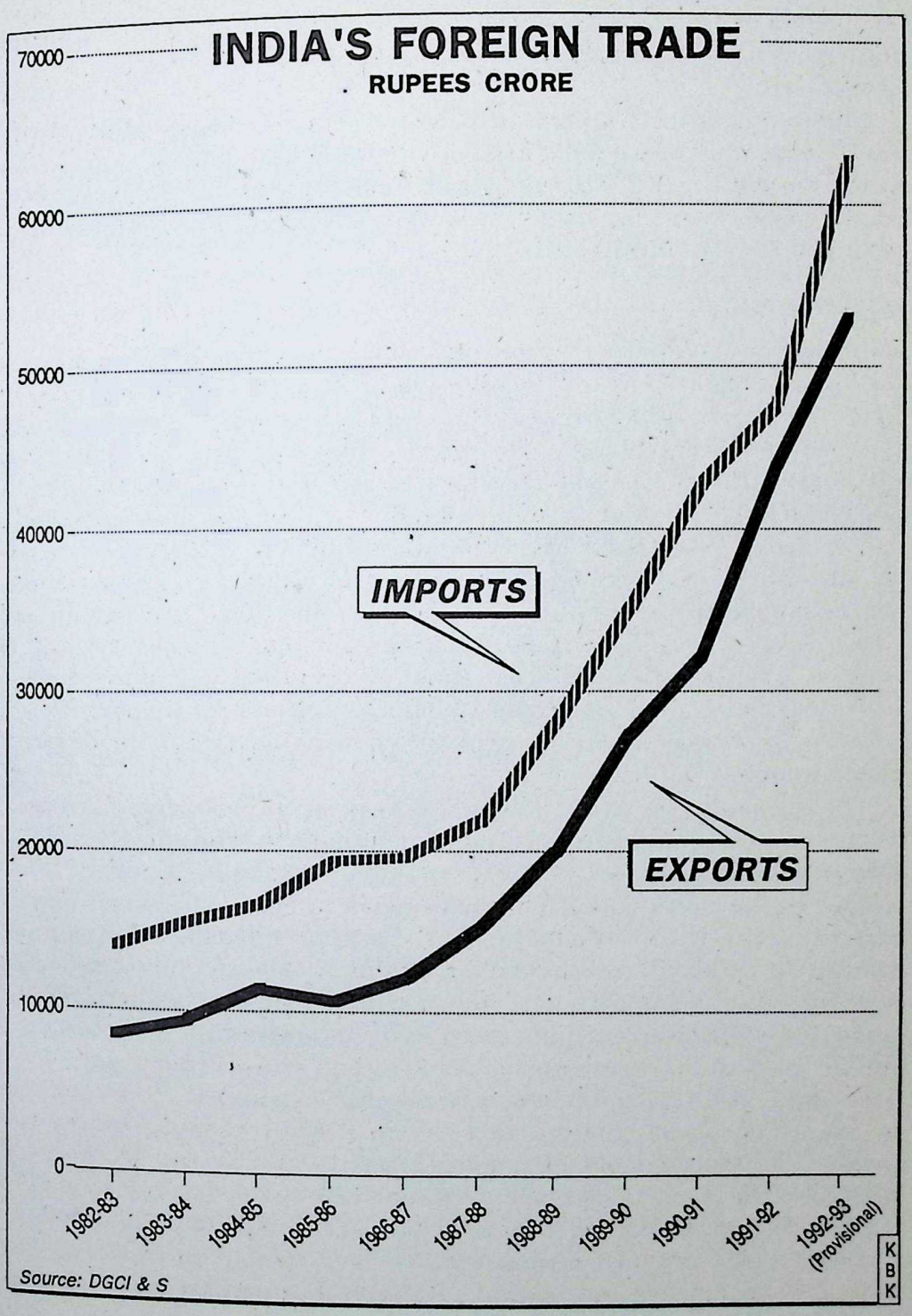

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Construction machinery, equipment, related spares, tools and accessories used in overseas projects can be imported without a licence after completion of the projects. So is the policy in the case of office equipment and vehicles but subject to the condition that these have been used for at least one year.

Import of gifts shall be permitted according to the Baggage Rules, 1976. In any other case, a Customs Clearance Permit (CCP) shall be required for import of gifts by such institutions and establishments as may be specified in this behalf. Such imports will, however, be subject to the Foreign Contribution (Regulation) Act, 1976.

EXPORT POLICY

All goods may be exported without any restriction except to the extent such exports are regulated by the Negative List of Exports. The Negative List of Exports has been further pruned. A total of 144 items in the Negative List of Exports have been removed. Those items which have been excluded from the Negative List, but in respect of which it is necessary to attach certain terms and conditions for export *viz.*, Minimum Export Price Quantitative Ceilings etc., are given in the Handbook of Procedures, 1992-97. No licence is required for the export of these items. The concept of deemed exports has been retained in the new policy with some minor modifications. The definition of deemed exports has been revised and benefits such as Duty Exemption Scheme, Duty Drawback Scheme, refund of terminal excise duty has been extended. Deemed exports are also eligible for grant of special import licences for a specified value for the import of certain items included in the Negative List of Imports.

The diamond, gem and jewellery export promotion schemes have been retained except that the bulk licences for rough diamonds for the private firms has been abolished. The Export Promotion Capital Goods (EPCG) scheme has been liberalised and capital goods are now available for import at concessional rate of customs duty of 15 per cent with export obligation of four times of CIF value of the imports. Both new and second-hand capital goods may be imported under the scheme. Domestic manufacturers of capital goods, who may require to import components, may also avail the EPCG sceme at the concessional rate of customs duty of 15 per cent of the CIF value. The export promotion councils have performed a very vital role in the promotion of exports. Their role has been recognised in the new policy. The Registration-cum-Membership Certificate issued by EPCs will continue to be an essential requirement for any importer/exporter to avail of the benefits or concessions or to apply for any licence under the new policy.

In the policy, a new chapter on 'Quality' has been introduced for the first time. The government has introduced a scheme to recognise and suitably reward manufacturers who have acquired the ISO 9000 (series) or the BIS 14000 (series) or any other internationally recognised equivalent certification of quality. Such manufacturers will be eligible for grant of special import licences. The basic objective of the Duty Exemption Scheme is to make

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available to the registered exporters the necessary inputs needed for export production, at international price without payment of customs duty so as to make the exports competitive in the international market both quality-wise and value-wise. In the new policy, major reforms have been brought about in the Duty Exemption Scheme, in the interest of export promotion.

Now in the modified scheme, the scope has been enlarged by way of introduction of the value based advance licences in addition to the quantity based scheme already in existence. The exporters are now at liberty to import relevant inputs except for the prohibited items appearing in the Negative List, either on value based or on quantity based norms specified for a number of products to meet the export obligation undertaken.

A new scheme called 'Self-declared Pass Book Scheme' has been introduced. Star trading houses/trading houses/export houses as well as exporters of certain other products are eligible to participate in the scheme. Under this scheme, the eligible exporters may obtain a pass book and effect import on the basis of self-declaration with regard to item, quantity and CIF value. Similarly, they shall also be discharged from export obligation based on their export entries, self-declaration and self-certification with regard to names, description of goods exported and value addition achieved.

Merchant and manufacturer exporters and trading companies including those having foreign equity, Export Oriented Units (EOUs) and units located in Export Processing Zones (EPZs) have been recognised as export houses, trading houses or star trading houses under criteria laid down from time to time. With effect from 1 April 1993, the criterion for recognition as export houses, trading houses or star trading houses shall be the average FOB value of physical exports during the three preceding licensing years or the FOB value of physical exports during the preceding licensing year, whichever is satisfied, as follows:

Category	Average FOB value of physical exports during the preceding three licensing years	FOB value of physical exports during the preceding licensing year
Export houses	Rs 10 crore	Rs 15 crore
Trading houses	Rs 50 crore	Rs 75 crore
Star trading houses	Rs 250 crore	Rs 300 crore

Double weightage is given to physical export of products manufactured by small scale industries (SSI), handloom and handicrafts including sports goods, hand-knitted carpets and silk products.

EXPORT PROCESSING ZONES AND EXPORT ORIENTED UNITS

Export processing zones (EPZs) have emerged as an effective instrument to boost exports of manufactured products especially in developing countries. The zones are intended to provide an internationally competitive duty free environment for export production at low costs. India has six export process-

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ing zones at Kandla (Gujarat), Santacruz (Bombay), Falta (West Bengal), Noida (UP), Cochin (Kerala) and Madras (Tamil Nadu). The basic infrastructural development of the seventh zone at Visakhapatnam is now complete and applications for setting up industrial units are being entertained at present. The Santacruz Electronics Export Processing Zone (SEEPZ) is meant exclusively for export of electronics, gem and jewellery items, whereas the others are multi-product zones. The Export Oriented Units (EOU) scheme introduced in early 1981, is complementary to the EPZ scheme. It adopts the same production regime but offers a wider option in location with reference to factors like sources of raw materials, ports of export, hinterland facilities, availability of technological skills, existence of an industrial base and the need for a larger area of land for the project. Each of the zones provides basic infrastructure such as developed land for construction of factory sheds, standard design factory buildings providing ready-built sheds, roads, power, water supply and drainage. In addition, customs clearance is arranged within the zone at no extra cost. Provision is made for locating banking/post office facilities and offices of clearing agents in the service centres located in each of the zone. EOUs have, on the other hand, to put up their own infrastructure, because it is not possible for government to replicate the facilities of EPZs at every EOU location.

The major incentives/concessions provided to units in the EOU/EPZ sector are: (i) duty free import of capital goods, raw materials, components, consumables and spares; (ii) exemption from excise duty if goods are procured from indigenous sources; (iii) corporate tax holiday for a continuous block of five years during the first eight years of operation; (iv) facility to sell upto 25 per cent/50 per cent of the production in the DTA and (v) cent per cent foreign equity participation is freely allowed. The number of units in operation in the six EPZs and under the EOU scheme alongwith figures of their exports are given in table 21.5. Certain improvements have been brought about in the EOU/EPZ schemes recently which include: (i) introduction of automatic approval procedure for setting up units under certain conditions; (ii) designation of development commissioners of EPZs as nodal officer for EOUs; (iii) revision of value addition formula by excluding indigenous raw materials to make the value addition on the basis of net foreign exchange earnings and (iv) encouragement of agro-industrial units with a higher DTA access of 50 per cent.

PLANTATION SECTOR

Plantation sector plays an important role in the economy as well as in foreign trade. Tea, tobacco, rubber and cardamom are among important plantation crops.

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TABLE 21.5 EXPORT FROM EXPORT PROCESSING ZONES

(Rs crore)

Name of the Zone	Number of units in operation	Exports		
		1990-91	1991-92	1992-93
Kandla	81	456.55	427.18	167.21
Santacruz	123	389.84	500.17	806.24
Noida	90	44.58	70.84	145.23
Madras	76	61.32	122.47	177.13
Cochin	28	5.46	28.58	62.25
Falta	16	24.95	27.90	18.25
EOUs	246	682.12	998.00	1,200.00[1]

1. Provisional

TEA

India is world's largest producer, consumer and exporter of black tea. During 1991-92, tea production was estimated at 72.5 crore kg. Due to unfavourable climatic condition, it is likely that the production during 1992-93 will remain at a level of around 70 crore kg. India is the only producer which manufactures both CTC and orthodox tea in substantial quantities. Production of CTC during 1991-92 is estimated to be 57.8 crore kg most of which is consumed at home. Orthodox tea has more flavour but gives lesser cuppage.

Country's ninety eight per cent of tea production comes from Assam, West Bengal, Kerala and Tamil Nadu. India has more than doubled its production since Independence, mainly by increasing yield through use of improved planting material and optimal use of inputs. Tea is mainly a labour intensive industry providing employment to over ten lakh persons directly and another ten lakh indirectly by way of ancillary occupations. Tea is a major export earner of India. During 1991-92 nearly 21 crore kg of tea worth Rs 1,157 crore was exported. Due to poor off-take by Russia and other CIS countries, the export during 1992-93 was below the level of 1991-92.

COFFEE

Coffee cultivation is mainly confined to three southern states of Karnataka, Kerala and Tamil Nadu. Non-traditional coffee growing states are Andhra Pradesh, Orissa and states of north-eastern region. Area under cultivation has increased from 1.71 lakh hectare in 1978 to 2.48 lakh hectare in 1991-92.

About 97.2 per cent of the coffee holdings are small holdings of less than ten hectare. Average productivity increased from 452 kg per hectare in 1983-84 to 760 kg per hectare (provisional) in 1989-90. Coffee crop observes cyclic nature of production, wherein peak production season is followed by a lean one. Production of coffee during 1992-93 has been estimated at 1.61 lakh tonnes as compared to an estimate of 1.80 lakh tonnes in 1991-92. Exports

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of coffee during 1992-93 were 1,10,018 tonnes worth Rs 369.30 crore (provisional).

Coffee Board, which is responsible for development of the coffee industry, has undertaken the Coffee Development Plan to improve yield and quality of coffee. For this, it advances loans to the coffee growers. Under the Coffee Act, all coffee produced is compulsorily pooled with the Coffee Board for sale and disposal. However, for the season 1992-93, the Coffee Board has granted an Internal Sale Quota (ISQ) of 30 per cent to growers whereby the growers are free to sell 30 per cent of their estimated production in the internal market. Coffee meant for exports is sold in export auctions and reserve price is based on London terminal price.

TOBACCO

India is the fourth largest producer of unmanufactured tobacco and the sixth largest exporter of tobacco in the world. During 1991-92, production of tobacco was estimated at 544.8 million kg of which 159.19 million kg was Virginia tobacco. About 75 per cent of tobacco exports are Virginia Flue Cured (VFC) tobacco. During 1991-92, exports of tobacco and tobacco products were worth Rs 390 crore as against Rs 264 crore in 1990-91, registering a 45 per cent increase. During 1992-93, the exports were worth Rs 507 crore. Tobacco Board is vested with responsibility of regulating production of Virginia tobacco and its marketing to ensure a fair and remunerative price to growers and promotion of exports of tobacco and tobacco products.

RUBBER

Rubber is a basic and important raw material required for the manufacture of a variety of products. Rubber is mainly grown in the southern states—Kerala, Tamil Nadu and Karnataka. Total area under rubber cultivation increased from 63,000 hectare in 1947-48 to 4.66 lakh hectare (provisional) in 1990-91. Average yield per hectare of rubber plantations is currently around 1,150 kg. Rubber plantations are dominated by the small holders numbering around six lakh (estimated) sharing about 82 per cent of the total rubber area. With a view to giving relief to industry and reviewing demand/supply position of natural rubber, import of rubber is allowed since 1978-79. However, no import has been made through STC during 1992-93. Production and consumption of natural rubber during 1992-93 is estimated at 3.95 lakh tonnes and 4.14 lakh tonnes respectively. Rubber Board looks after the development of the rubber industry.

CARDAMOM

At present, cultivation of cardamom is largely confined to Kerala, Tamil Nadu and Karnataka. It is estimated that an area of around 82,330 hectare is under the cardamom cultivation. Production of small cardamom in 1991-92 was 5,000 tonnes which during 1992-93 is estimated at around 4,400 tonnes.

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During 1992-93, there was a severe drought all over the cardamom growing belt, followed by a cyclonic storm. During 1992-93, 175 tonnes of cardamom worth Rs 6.80 crore, with a unit value of Rs 388.34 per kg were exported. Spices Board constituted under the Spices Board Act, 1986, looks after the cardamom industry in all its spheres, *viz* production, marketing, exports, research, etc. and export promotion of spices.

COMMERCIAL RELATIONS

There are at present 66 commercial offices attached to Indian Missions abroad including the office of the Ambassador of India to GATT who is also the permanent representative of India to UNCTAD in the Permanent Mission of India, Geneva. These commercial offices function under the budgetary control of the Ministry of Commerce and have a vital role to play in the promotion of India's trade and economic relations abroad. Apart from advising and assisting the Head of Mission on all commercial and economic matters, it is also the function of the commercial representatives to assist Government in the formulation of its trade and economic policies through regular feedback on market trends, trade promotion prospects and the general economic situation of the country to which they are accredited. To keep our commercial representatives informed of important developments in exports and economic sphere, a system of monthly newsletter from the Ministry of Commerce to the missions was introduced with effect from June 1984. The trade turnover during 1992-93 was Rs 2,503 crore.

SOUTH ASIA

South Asian region comprising of six countries namely Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka accounts for nearly 3.5 per cent of total exports from India. The imports from the region are approximately 0.5 per cent of total imports by India. Trade in the region is regulated in accordance with the various bilateral trade agreements in force with these countries. The trade turnover in 1991-92 is provisionally placed at Rs 1,811.94 crore as against Rs 1,192.83 crore in the previous year with a significant increase in exports to Bangladesh and Sri Lanka.

BANGLADESH

Indo-Bangladesh trade takes place under the provisions of the Indo-Bangladesh Trade Agreement which came into force from October 1980 and has been extended upto 3 October 1995. The agreement is extendable for a further period of three years by mutual consent. The trade with Bangladesh is effected in freely convertible currencies in accordance with foreign exchange regulation in force in each country from time to time.

MALDIVES

Indo-Maldives trade is regulated in accordance with the provisions of the trade agreement signed in 1981 and still in force. Although Maldives is not a major

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consumer, yet all her requirements have to be imported because there is neither any industry nor agriculture in Maldives.

PAKISTAN

Trade between India and Pakistan has been taking place in accordance with the export-import policy and prescribed procedures of the two countries. In July 1989, the Government of Pakistan notified a list of 322 additional items that could be imported by the Pakistan private sector from India bringing the total to 571 items. The Indo Pak Joint Commission meeting was held in Islamabad in July 1989.

SRI LANKA

In South Asian region, Sri Lanka comes second only to Bangladesh as a market of Indian exports. Indo-Sri Lanka trade is governed by the Trade Agreement signed in 1961 and still in operation. The format of Indo-Sri Lanka Joint Economic Commission has now been changed to Joint Commission with effect from July 1991 and its's first meeting was held in New Delhi in January 1992. As a follow-up, the Indo-Sri Lanka Joint Business Council has been reactivated after a gap of 11 years, 2nd and 3rd meetings of the Joint Business Council has already taken place in March 1992 and March 1993 in Delhi and Colombo respectively.

NEPAL

Bilateral trade between India and Nepal is governed by Indo-Nepal Treaty of Trade, of Transit and Agreement for Cooperation to Control Unauthorised Trade signed in New Delhi on 6 December 1991. The Treaty of Trade and the Agreement for Cooperatin to control Unauthorised Trade are valid for a period of five years and the Treaty of Transit is valid for a period of seven years. Under these treaties/agreements, India and Nepal have agreed to exchange a number of concessions to promote bilateral interaction in trade and commerce. The procedure for grant of preferential entry into India for the Nepalese industrial products movement of Nepalese private commercial vehicles from border to Calcutta and back and movement of Nepalese goods and vehicles from one part of Nepal to another through the Indian territory has been simplified with effect from 1 April 1993.

BHUTAN

Trade between India and Bhutan is conducted in accordance with the provisions of the Trade Agreement signed in March 1990 in Thimpu for a period of five years. The Agreement provides for free trade and commerce.

EAST ASIA

East Asia region constitutes a number of fast developing economics like Thailand, Malaysia, Indonesia and Philippines, newly industrialised

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economies like Hong Kong, Singapore and developed countries like Japan, Australia, New Zealand and Republic of Korea. The region, as a whole, has been displaying a rapid growth of GDP and trade is expected to remain at the forefront of the world economy. Exports to this region registered an increase of 21.6 per cent during 1992-93 reaching Rs 7,788 crore as compared to Rs 9,936 crore during 1991-92 registering an increase of five per cent.

India has an overall adverse balance of trade in this region though the surplus is in India's favour in the case of Hong Kong, Indonesia, Philippines and Thailand. The adverse balance of trade is due to bulk imports of coking coal, palm oil, wool, electronic goods, and fertilizers. Main items of exports to this region have been textiles, garments, cotton, ores and concentrates, tea, coffee, marine products, leather and leather manufactures, engineering goods etc.

Japan is India's largest trading partner in the region and in fact, the second largest in the world. During 1992-93, Indo-Japan bilateral trade stood at Rs 8,234 crore.

The Fifth Indo-Vietnam Joint Commission was held in March 25-27 1992 at New Delhi. The Indo-New Zealand Joint Trade Committee met in New Delhi in June 1992. The Indo-Malaysian Joint Commission held its first meeting in November 1992 in Malaysia. The Joint Business Councils with Australia, New Zealand, Indonesia and Republic of Korea met during this year thereby providing an effective forum for businessmen to explore the potential for growth in bilateral trade.

WEST ASIA AND NORTH AFRICA

West Asian and North African countries occupy important position in India's trade. During 1992-93, exports to this region were Rs 5,763 crore and imports were Rs 15,414 crore. The balance of trade is not in favour of India because of imports of large quantities of crude oil from this region. This region is also an important source of supply of some industrial raw materials required in India, *viz.*, fertilizers rock phosphate, etc. It holds considerable promise for growth of India's exports, particularly in engineering, agricultural products and gems and jewellery. India has trade agreements with Egypt, Iraq, Iran, Afghanistan, Jordan, Kuwait, Libya, Morocco, Syria and Tunisia. India is also having joint commissions with some of these countries with a view to devising measures or improving and diversifying trade flow.

AFRICA (SOUTH OF SAHARA)

India has taken several measures to increase trade, bilateral cooperation and joint ventures with sub-Saharan/African countries. Prominent measures undertaken include exchanging trade delegations at the ministerial and official levels, holding joint committee/joint commission meetings, participating in fairs and exhibitions and organising exclusive Indian fairs. Trade agree-

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ments have been signed with various sub-Saharan countries to provide an institutional mechanism for promoting trade. Such agreements have been signed with fifteen countries, namely, Angola, Cameroon, Ethiopia, Ghana, Ivory Coasts, Kenya, Liberia, Mozambique, Nigeria, Rwanda, Senegal, Uganda, Zaire, Zambia and Zimbabwe. India has a total number of 34 joint ventures in sub-Saharan Africa of which 28 are already in operation and six are under implementation.

Major items of exports from India are engineering goods, transport equipment, cotton manufactures, chemicals and allied products, iron and steel manufactures, tobacco and spices. Major items of imports include copper, lead, zinc, cobalt, rock phosphate, phospheric acid, raw cashew nuts, asbestos, pulses, flourspar, wattle extract and other tanning and dyeing materials. Exports to sub-Saharan Africa continued to maintain upward trend during the recent years. The level of unfavourable balance of trade with sub-Saharan Africa has also been narrowed down since 1988-89 and for the first time India registered a positive balance of trade during the year 1991-92. This positive trend in the balance of trade was sustained during 1992-93 also. The details are given in table 21.6

TABLE 21.6 BILATERAL TRADE

(in Rs crore)

Year	Exports	Per cent increase (+)/ decrease(-)	Imports	Per cent increase (+)/decrease (-) over previous year	Balance of Trade
1985-86	173.18	—	310.13	—	-136.95
1986-87	208.98	20.67(+)	315.79	1.8+	-106.81
1987-88	252.27	20.71(+)	407.58	29.06(+)	-155.31
1988-89	339.55	34.65(+)	500.89	22.89(+)	-161.33
1989-90	451.65	32.98(+)	581.63	16.12(+)	-129.98
1990-91	586.42	29.84(+)	663.65	14.10(+)	-77.23
1991-92	1,020.53	74.03(+)	850.78	28.20(+)	+169.75
1992-93	1,586.12	55.42(+)	957.69	12.57(+)	+628.43

EAST EUROPE

Trade with east European countries particularly with the erstwhile USSR has been a very important component of India's global trade. However, as a result of the dramatic political and consequent economic changes in the region in recent times, the level of trade with the former Rupee Payment Area countries has declined significantly in the last couple of years. Several steps have been taken to meet the challenge of the new realities in east Europe and to revive the falling levels of bilateral trade with a view to sustaining and boosting trade in the medium to long term, with these traditional trade partners. Some of these measures are (i) conclusion of new framework trade agreements with the emergent countries of east Europe and former USSR based on hard currency trade; mutual MFN treatment and with provisions for counter

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trade, barter, etc; (ii) conclusion of inter-bank arrangements;(iii) exchange of trade and economic delegations and encouragement to promotion of direct business-level contacts;(iv) proposals to set up joint venture banks;(v) extension of government credits by India;(vi)emphasis on promotion of joint ventures;(vii)development of transport and transit routes and (viii) intensification of economic cooperation such as through training programmes in India, provision of Indian expertise and consultancy services etc.

Responding promptly to the creation of new States from the former Soviet Union and in east Europe, bilateral diplomatic and direct trade relations were rapidly established.

The framework of the commercial ties has been defined by the scenario of on-going liberalisation processes on both sides. India has already signed/initialled new trade agreements with all former USSR countries, except with Azerbaijan and Georgia which too are to be concluded soon. New agreements have also been put in place with the Czech and the Slovak Republics and with Romania; similar agreements with States formerly part of Yugoslavia, *viz.* Slovenia and Croatia already are on the anvil. There is every reason to expect that trade with the East European and former USSR region will be soon on the upswing.

WEST EUROPE

West Europe is another major trading area which accounted for about 40.97 per cent of India's total exports and 37.17 per cent of imports during 1991-92. It has two major economic groupings-EEC(UK, Germany, France, Italy, Belgium, the Netherlands, Luxembourg, Denmark, Ireland, Greece, Spain and Portugal) and EFTA (Norway, Sweden, Finland, Austria, Switzerland, Ireland and Lichtenstain), besides, some other countries like Turkey, Malta and Cyprus. A major part of India's total exports to west European region is accounted for by just seven countries, namely, UK, Germany, Netherlands, Italy, France, Belgium and Switzerland. Hence, most of the markets in this region are still relatively unexplored. Imports from west European block are generally manufactured products especially plant and machinery, chemicals, steels and transport equipment while India's exports largely comprise of traditional goods including textiles, garments, tea, marine products, tobacco, spices, leather, gems and jewellery, handicrafts etc.

Formation of Single European Market with effect from 1 January 1993 with the economic integration of the twelve member countries of EEC has created fresh opportunities for exports from the developing countries like India. It has also posed certain challenges by way of increased competition, elevation of quality standards, etc. Necessary steps have been taken to meet these challenges.

India has trade agreements with several west European countries, the important one being Indo-EEC agreement for commercial and economic cooperation. Besides, Indo-EEC relations, bilateral economic relations came up for review at the meetings of the joint commissions/committees. During

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1991 and 1992, EEC accounts for nearly 27.01 per cent of exports, 29.18 per cent of imports and over 50 per cent of India's global trade deficit.

NORTH AMERICA

Next to EEC, the USA is India's largest trading partner. In 1991-92 exports to USA were of the order of US $ 2.920 billion and imports from USA were of the order of US $ 1.987 billion. There has been virtual stagnation in the volume of two-way trade since 1988. Major exports to USA are diamonds, textiles, engineering products, carpets and floor coverings, leather and leather manufactures and chemicals. Exports of gem and jewellery after recording rapid progress till 1989-90 have since declined. India's trade with Canada is of the order of US $ 465.37 million. However, it has been picking up. The major items of export to Canada includes garments, leather goods, carpets, chemicals and allied products etc. The major items of import from Canada include sulphur, machinery and equipment, potassium chloride etc.

SOUTH AMERICA

Though our exports to the South American region comprising Latin America and Caribbean countries have shown a comparative increase during 1990-91 and 1991-92, India continues to be an insignificant trading partner of this region with an adverse balance of trade. Our exports during 1991-92 were worth 119.92 million dollars whereas imports totalled 341.55 million dollars.

There are indications of significant potential for further increasing our exports to this region due to opening up of the economies of various prominent Latin American nations notably Mexico, Brazil, Argentina, Colombia, Chile, Peru and Venezuela. Apart from the above mentioned countries, Panama, Trinidad and Tobago and Surinam are some of our important export markets in this region. Imports in bulk quantities of iron and steel, non-ferrous metals and PVC mainly from Brazil and Argentina add significantly to our import bill. Balancing of trade with this region has not been easy because of the long distance, lack of direct sailings and absence of knowledge in these countries about India's technical and export capabilities. Concerted efforts are being made to improve the situation.

JOINT VENTURES ABROAD

India has set up joint ventures abroad as a part of its overall strategy to increase participation in development process of the Third World. By March 1993, there were 347 joint ventures, of which 161 were in operation and 186 under various stages of implementation. Of these 161 joint ventures, 91 are in the manufacturing sector, topped by light engineering goods followed by chemicals and pharmaceuticals and textiles. Other industries in which Indian joint ventures have been set up include palm oil refinery and fractionation, iron and steel products, pulp and paper, glass and glass products, food products, leather, rubber products, etc. In non-manufacturing sector, largest number

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is in hotels and restaurants followed by trading and marketing, engineering contracts and construction, consultancy etc. Total quantum of Indian equity in joint ventures in operation as on 31 March 1993 was Rs 121.55 crore. Regionwise majority of joint ventures are located in the neighbouring countries of South and East Asia followed by Africa.

PUBLIC SECTOR AGENCIES

Various public sector agencies have been set up to increase state participation in the country's export and import trade. State Trading Corporation(STC) came up in 1956 as an autonomous corporation for diversifying foreign trade and supplementing efforts of the private trade and industry in developing India's foreign trade. STC has also been asked from time to time to undertake price support operations to protect interests of growers and buffer stocking to ease problem of shortage of some essential items. It achieved a turnover of Rs 1,315 crore in 1991-92. This consisted of exports worth Rs 625 crore, imports worth Rs 610 crore and domestic sales worth Rs 80 crore.

Projects and Equipment Corporation (PEC) was created to give impetus to export of engineering equipment and projects from India. It specialises in export of railway, rolling stock, heavy equipment and execution of civil constructions and turn-key projects. It identifies technological competence of manufacturers of goods and other agencies for services and ensures fulfilment of contractual obligations in respect of quality and delivery schedules. PEC's turnover during 1991-92 was Rs 193 crore, consisting of exports worth Rs 189 crore and imports worth rupees four crore.

Tea Trading Corporation of India (TTCI) was established in 1971 to create a stable export market for the Indian tea, particularly in its value added form, namely, packaged tea, tea bags, instant tea, etc. Other activities of the corporation include marketing of tea for domestic consumption, management of tea gardens, warehousing of tea and establishment of other facilities beneficial to the tea industry. TTCI has now been converted into a subsidiary of the STC.

Minerals and Metals Trading Corporation of India Limited (MMTC) established in 1963 occupies a prominent place in India's foreign trade in minerals and metals. Very recently the Corporation's registered name was changed to MMTC Limited. While exports of iron ore, manganese ore and chrome ore continues to be canalised through MMTC, exports of coal were decanalised since 19 August 1992. Similarly imports of industrial raw materials, non-ferrous metals and fertilizers (MOP and DAP), fertilizer raw materials (sulphur and rock phosphate) and fertilizer intermediates (phosphoric acid and ammonia) were decanalised over the year 1991-92. Among finished fertilizers, imports of only urea continue to be canalised through MMTC. As a result of decanalisation of major items of interest to MMTC, the company has been in the process of diversification of its export portfolio. It has become a registered leading Star Trading House.

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The areas in which MMTC has diversified its exports include items like agro products (soyameal, rice bran, etc.), meat and marine products, diamonds, gems and jewellery and such other items like textiles including yarn, leather and leather products. The company also deal in counter trade exports generated by canalised imports. On the imports side, besides existing imports of non-ferrous metals, steel, MMTC has diversified into imports of gold, rough diamonds and emeralds and other items. MMTC achieved a turnover of Rs 8,115 crore during 1991-92 including exports of Rs 1,786 crore, imports of Rs 6,241 crore and a domestic trade of Rs 88 crore. During 1992-93, the provisional turnover of MMTC was of Rs 4,996 crore comprising of exports of Rs 1,541 crore, imports of Rs 3,369 crore and domestic trade of Rs 86 crore. The decline in turnover was the effect of decanalisation of and diversification into new export endeavour. It has recently opened its foreign offices at Singapore, Berlin (Germany) and New York (USA) besides Tokyo (Japan).

The Mica Trading Corporation of India Limited (MITCO), which was set up in 1974, is the only subsidiary of MMTC. It looks after the exports of mica scrap and waste. It also exports value added mica products alongwith other independent exporters. During 1992-93, MITCO's provisional exports were valued at dollars 5,81,000.

Export Credit Guarantee Corporation of India Limited was originally set up in 1957 as Export Risk Insurance Corporation. In January 1964, it was transformed into Export Credit and Guarantee Corporation Limited and in December 1983, again renamed as Export Credit Guarantee Corporation of India Limited. The primary objective of the Corporation is to promote exports from India by providing export credit insurances and guarantee facilities to the Indian exporters and commercial banks.

The Spices Trading Corporation Limited, formerly known as Cardamom Trading Corporation Limited was incorporated under The Companies Act, 1956 in October 1982 but the actual trading activities commenced from September 1983. The main objectives of the Corporation are (i) to carry on domestic and international trade in spices and its products; (ii) to process and cure spices and manufacture its products; (iii) to support, project, maintain, increase and promote the production of its products as also the sale of export (iv) and to undertake and promote research and development of spices and its products. The Corporation achieved a record turnover of Rs 1,501 lakh during 1991-92 from a level of Rs 635 lakh in the previous year. During 1992-93, the Corporation's turnover upto December 1992, was Rs 898 lakh, out of which exports accounted for Rs 139 lakh.

AUTONOMOUS BODIES

There are a number of autonomous bodies under the Ministry of Commerce connected with the development of exports and export promotion activities. There are five statutory commodity boards, responsible for the production, development and export of tea, coffee, rubber,spices and tobacco. Export

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Inspection Council, Calcutta, a statutory body, is responsible for enforcement of quality control and compulsory preshipment inspection of various exportable commodities. Indian Institute of Foreign Trade, New Delhi, a registered body is engaged in: (i) training of personnel in modern techniques of international trade; (ii) organisation of research in problems of foreign trade; (iii) organisation of marketing research, area surveys, commodity surveys and market surveys' and (iv) dissemination of information arising from its activities relating to research and market studies.

The Indian Institute of Packaging, Bombay set up in 1966, is also a registered body. The Institute undertakes research on raw materials for packaging industries, organises training programmes on packaging technologies and stimulates consciousness on the need for good packing, etc. There are at present 19 export promotion councils, out of which 11 are under the Ministry of Commerce and eight under the Ministry of Textiles. The councils are non-profit organisations registered under the Companies Act/Society Registration Act. The basic objective of the export promotion councils is to promote and develop the exports of the country. Each council is responsible for the promotion of a particular group of products, projects and services. The role and functions of the councils have been defined in the new Export-Import Policy.

Agricultural and Processed Food Products Export Development Authority (APEDA) came into existence in February 1986. The Authority acts as focal point for agricultural exports and concentrates on marketing of processed foods in value-added form. It also introduces effective quality control measures. Federation of Indian Export Organisation, New Delhi is an apex body of various export promotion organisations and institutions. It functions as primary servicing agency to provide integrated assistance to the government recognised export houses and as a central coordinating agency in respect of export promotional efforts in the field of consultancy service in the country. Indian Council of Arbitration, New Delhi set up under the Societies Registration Act, promotes arbitration as means of setting commercial disputes and popularises arbitration among traders, particularly those engaged in the international trade.

Among the steps taken by Ministry of Commerce to further the export promotion efforts, has been the merger of Trade Development Authority (TDA) with the Trade Fair Authority of India (TFAI) to form a new organisation under the name of India Trade Promotion Organisation (ITPO). The integrated work of the two organisations will result in greater programme coordination, operation efficiency and avoidance of overlapping of functions leading to better export promotion. ITPO was set up on 1 January 1992 with headquarters at Pragati Maidan, New Delhi to provide effective facilities and services to trade and industry, especially in the field of trade fairs and exhibitions and collection and dissemination of trade information. The main objectives of the India Trade Promotion Organisation will be to develop and promote exports, imports and upgradation of technology through the

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medium of fairs to be held in India and abroad, to undertake publicity through the print and electronic media, to assist Indian companies in product development, to organise export development programmes, buyer-seller meets, contact promotion programmes and integrated marketing programmes for specific products in specific markets. The India Trade Promotion Organisation will provide information and market intelligence to the business community in India. It will also organise visits of buyers and trade delegations to industry and trade establishments in India with a view to promote contacts.

Marine Products Export Development Authority, Cochin, a statutory body set up in August 1972, is responsible for the development of marine products industry with special reference to export. Central Advisory Council on Trade comprising representatives from different organisations and individuals with business standing and expertise in the field of commerce, advises government on matters relating to: (i) export and import policy programmes; (ii) operation of import and export trade controls; (iii) organisation and development of commercial services and (iv) organisation and expansion of export production. Board of Trade has been constituted under the Chairmanship of Union Commerce Minister to advise the government on programmes and strategies for export promotion.

ATTACHED/SUBORDINATE OFFICES

Import-Export Trade Control Organisation headed by the Director General of Foreign Trade (DGFT) is responsible for execution of export and import policies of the Government of India, announced for 1992-97. Import and export licensing of iron and steel and ferro-alloys is also looked after by this organisation. It has regional offices at Calcutta, Bombay, Pune, Madras, New Delhi, Kanpur, Bangalore, Ahmadabad, Ludhiana, Moradabad, Ernakulam (Cochin), Jaipur, Varanasi, Hyderabad, Guwahati, Bhopal, Coimbatore, Panipat, Srinagar, Rajkot, Patna, Madurai, Shillong, Amritsar, Panjim, Gandhidham, Chandigarh, Cuttack, Pondicherry and Visakhapatnam. Export promotion offices at Bombay, Calcutta, Madras, Cochin, Nagpur and Pune are also functioning under the regional Joint Chief Controllers of Imports and Exports or Deputy Chief Controllers of Imports and Exports.

The Directorate General of Commercial Intelligence and Statistics(DGCI&S) Calcutta, is the primary government agency for the collection, compilation and the publication of the foreign, inland and ancillary trade statistics and dissemination of various types of commercial information. The Directorate brings out a number of publications, particularly on trade statistics, which are utilised in framing economic policies, formulating trade agreements with foreign countries and monitoring these agreements. These publications are also used by the trading public and research scholars. The Directorate also helps in the settlement of commercial disputes. It maintains a Commercial Library which is widely used by the exporters, importers, research scholars and others. Development commissioners of export processing

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zones have now been designated as the nodal officers in regard to cent per cent export oriented units also.

Enemy properties in India are being administered by the Custodian of Enemy Property for India, Bombay. It came into existence in 1939 in the wake of the Second World War and is entrusted with two-fold duties, *viz*, (i) custody, management and administration of movable and immovable properties in India and (ii) settlement of claims of the Indian nationals whose properties were lost in Pakistan during and after Indo-Pak conflict of 1965.

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22 Transport

PRESENT transport system prevailing in the country comprises several modes of transport, including rail, road, coastal shipping, air transport, etc. Transport has recorded a substantial growth over the years both in network and output of the system.

RAILWAYS

The railways in India provide the principal mode of transportation for freight and passengers. It brings together people from the farthest corners of the country and makes possible the conduct of business, sightseeing, pilgrimage and education. Indian railways have been a great integrating force during the last hundred years. It has bound the economic life of the country and helped in accelerating the development of industry and agriculture. From a very modest beginning in 1853, when the first train steamed off from Bombay to Thane, a distance of 34 km, Indian railways have grown into a vast network of 7,116 stations spread over a route length of 62,458 km with a fleet of 8,268 locomotives, 29,501 coaches, 3,291 electric multiple units and 3,46,394 wagons. The growth of Indian railways in the 139 years of its existence is thus phenomenal. It has played a vital role in the economic, industrial and social development of our country. The network runs multigauge operations extending over 62,458 route kilometre. The gauge-wise route and track lengths of the system as on 31 March 1992 were as under.

Gauge	Route kilometre	Running track kilometre	Total track kilometre
Broad Gauge (1,676 mm)	35,109	50,411	72,847
Metre Gauge (1000 mm)	23,283	24,492	31,935
Narrow Gauge (762 mm and 610 mm)	4,066	4,066	4,556
Total	62,458	78,969	1,09,338

About 17 per cent of the route kilometre, 25-38 per cent of running track kilometre and 24-31 per cent of total track kilometre is electrified. The network is divided into nine zones and further sub-divided into divisions. Divisions are the basic operating units. The nine zones, their respective headquarters and the route kilometre for each as on 31 March 1992 are given below.

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Railways	Headquarters	Route kilometre
Central	Bombay	6,942
Eastern	Calcutta	4,294
Northern	New Delhi	11,023
North Eastern	Gorakhpur	5,165
Northeast Frontier	Maligaon (Guwahati)	3,858
Southern	Madras	6,928
South Central	Secunderabad	7,249
South Eastern	Calcutta	7,160
Western	Bombay	9,839
Total		62,458

Cooperation between public and railway administration is secured through various committees including National Railway Users' Consultative Committee, Zonal Railway Users' Consultative Committees and Divisional Railway Users' Consultative Committees. Railways as on 31 March 1992 comprised 2,492 steam, 3,905 diesel and 1,871 electric locomotives. Currently, the railways are in the process of inducting new designs of fuel-efficient locomotives of higher horse power, high speed coaches and modern bogies for freight traffic. Modern signalling like panel inter-locking, route relay interlocking, centralised traffic control, automatic signalling and multi-aspect colour light signalling, are being progressively introduced to increase the throughput. Indian railways have made impressive progress in indigenous production of rolling stock and a variety of other equipment over the years and is now self-sufficient in most of the items.

The main objective of railways planning has been to develop the transport infrastructure to carry the projected quantum of traffic and meet the developmental needs of the economy. Since the inception of the planned era in 1950-51, Indian railways have implemented Seven Five Year Plans, apart from Annual Plans in some years. During Seven Plans, emphasis was laid on a comprehensive programme of system modernisation. With capacity being stretched to the full, investment in cost-effective technological changes became inescapable in order to meet ever-increasing demand for rail transport. Alongwith the major thrust directed towards rehabilitation of assets, technological changes and upgradation of standards were initiated in important areas of track, locomotives, passenger coaches, wagon bogie designs, signalling and telecommunication. For long-term requirements, the railways have also prepared a 'corporate plan' covering 15 years period, 1985-2000. It seeks to provide 370-400 billion net tonne km freight traffic, 310-330 billion non-suburban passenger kilometre and 105-110 billion suburban passenger kilometre by the turn of the century. Progress of railway traffic and inputs is shown in table 22.1.

ADMINISTRATION

The management and overall administration of the Indian Railways rests with the Railway Board under the overall guidance of the Minister for Railways who is assisted by the Minister of State for Railways. The Railway Board exercises all powers of the Central Government in respect of regulation,

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construction, maintenance and operations. The Railway Board consists of the Chairman, the Financial Commissioner for Railways and five functional Members.

RAILWAY FINANCE

Since 1924-25, Railway finances remain separated from general revenues. They have their own funds and accounts and the Railway budget is presented separately to Parliament. However, the railways contribute to the general revenue a dividend on the capital invested. Quantum of contribution is reviewed periodically by a Parliamentary Convention Committee.

RESEARCH AND DEVELOPMENT

Research, Designs and Standards Organisation (RDSO) at Lucknow is the R and D Wing of Indian Railways. It functions as a consultant to the Indian Railways in technical matters. It also provides consultancy to other organisations connected with railway manufacture and design. Technology missions have been identified in carefully selected areas for developing indigenous technology. It reviews and keeps a close watch over the implementation of important projects. The working of RDSO is supervised by a governing council, which is headed by the Chairman, Railway Board as its Chairman and with the Members of the Board and Director General, RDSO as members. It reviews the progress of the various projects in hand and identifies new projects to be taken up. A Central Board of Railway Research (CBRR) having eminent scientists and engineers from research organisations, teaching institutions and industry also functions as an advisor on Research and Development activities. At present the following technology missions are in hand like; (i) developing technology for operation of passenger services at 160 kmph on mixed routes; (ii) optimisation of existing assets and operations including reduction in equipment failures so as to increase the throughput and reduce accidents; (iii) energy conservation and energy auditing; and (iv) developing of diesel multiple units for efficient high capacity commuter services on busy routes, and rail bus services for BG/MG branch line for low density passenger services.

ROLLING STOCK

Over the years Indian Railways have made concerted efforts to achieve self-sufficiency in production of rolling stock in the country. Locomotives are built in Chittranjan, Locomotive Works (CLW), Chittaranjan, Diesel Locomotive Works (DLW), Varanasi and BHEL, Bhopal, a public sector company which has developed capability to manufacture electric locomotives for the Indian Railways. In 1991-92, CLW manufactured 115 broad gauge electric locomotives, 31 broad gauge diesel hydraulic locomotives and 14 narrow gauge diesel locomotives. DLW produced 97 broad gauge mainline diesel locomotives, 23 broad gauge shunters (including 10 locos for public sector units) and 30 metre gauge diesel locos during 1991-92. Diesel Component

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Works (DCW) has been set up by the Railways at Patiala for manufacturing and repairs of components of diesel locos and sub-assemblies. The project has attained the rated capacity for manufacture of components for diesel engines, its repairs and rebuilding of diesel locomotives. Bulk of passenger coaches are manufactured in Integral Coach Factory, (ICF), Perambur, Madras and Rail Coach Factory, Kapurthala. ICF manufactured 1,016 fully furnished coaches during 1991-92.The new Rail Coach Factory (RCF) set up at Kapurthala produced 915 coaches in 1991-92. In addition to ICF and RCF, there are two more units in public sector, *viz.*, Messers Jessops, Calcutta and Bharat Earth Movers Limited (BEML), Bangalore, who also manufacture coaches and electrical multiple units. A wheel and axle plant has been set up at Bangalore in 1984 to cut down imports in this field. The plants performed excellently during 1991-92 and helped the railways to save valuable foreign exchange by exceeding the targets.

TABLE 22.1 PROGRESS OF RAILWAYS' TRAFFIC AND INPUTS

Year	Route length (kilometre)			Running track (lakh) (km)	Passengers originating (lakh	Goods originating tonne)
	Electrified	Non-Electrified	Total			
1950-51	388	53,208	53,596	59,315	12,840	930
1960-61	748	55,499\	56,247	63,602	15,940	1,562
1970-71	3,706	56,084	59,790	71,669	24,311	1,965
1980-81	5,345	55,895	61,240	75,860	36,125	2,200
1985-86	6,517	55,319	61,836	77,153	34,335	2,864
1986-87	7,275	54,538	61,813	77,254	35,937	3,073
1987-88	8,157	53,819	61,976	77,671	37,921	3,185
1988-89	8,880	53,105	61,985	77,845	35,003	3,295
1989-90	9,100	53,111	62,211	78,320	36,531	3,343
1990-91	9,968	52,399	62,367	78,607	38,576	3,414
1991-92	10,653	51,805	62,458	78,969	40,486	3,600

Year	Number of locomotives			Number of coaching vehicles	Number of wagons
	Steam	Diesel	Electric		
1950-51	8,120	17	72	19,628	2,05,596
1960-61	10,312	181	131	28,439	3,07,907
1970-71	9,387	1,169	602	35,145	3,83,990
1980-81	7,469	2,403	1,036	38,327	4,08,946
1985-86	5,571	3,046	1,302	38,277	3,59,617
1986-87	4,950	3,182	1,366	37,997	3,54,041
1987-88	4,427	3,298	1,433	37,749	3,46,844
1988-89	3,826	3,454	1,533	37,867	3,45,821
1989-90	3,336	3,610	1,644	37,953	3,49,661
1990-91	2,915	3,759	1,743	38,511	3,46,102
1991-92	2,492	3,905	1,871	39,283	31,46,394

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The Shipping Corporation Of India Ltd.

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Other Office at: DELHI ★ CALCUTTA ★ MADRAS ★ LONDON

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PASSENGER TRAFFIC

There has been an impressive increase in volume of passenger traffic both in terms of number of passengers and passenger kilometers, which is a product of passengers carried and average distance traversed. Passengers originating had risen from 12,840 lakh in 1950-51 to 40,486 lakh in 1991-92 and passenger kilometre from 66.52 billion in 1950-51 to 314.6 billion in 1991-92. Despite constraint of resources, the railways have been able to cope with increasing demand of passenger traffic. Railways are the premier mode of passenger transport both for long distance and suburban traffic. During 1991-92, Indian Railways introduced 39 new trains, extended the run of 36 trains and increased the frequency of four trains in non-suburban sector. Similarly, in suburban sector, railways introduced 67 new trains and extended the run of 35 trains.

FREIGHT TRAFFIC

Rapid progress in industrial and agricultural sectors has generated higher level of demand for rail transport, particularly in core sectors like coal, iron and steel, ores, petroleum products and essential commodities such as foodgrains, fertilizers, cement, sugar, salt, edible oils, etc.

Revenue freight traffic increased from 732 lakh tonnes in 1950-51 to 3,380 lakh tonnes in 1991-92. Transport effort measured in terms of net tonne kilometres (NTKm) increased from 38 billion in 1950-51 to 250.2 billion in 1991-92. Some of the measures taken for improvement are (i) line capacity augmentation on certain critical sectors and modernisation of signalling system; (ii) measures such as unit train operation for bulk commodities like coal; (iii) increase in roller-bearing equipped wagons; (iv) increase in trailing loads to 4,500 tonnes; (v) operation 'UNI-GAUGE' on Indian Railways; (vi) Strengthening the track structure by providing heavier and stronger rails and concrete sleepers;(vii) production of prototype electric locomotive of 5000 HP for freight operation by Chitranjan Locomotive Works.

PASSENGER AMENITIES

Railways make every endeavour to provide adequate amenities to passengers in trains and at stations based on the volume of passenger traffic dealt with. Great emphasis has been laid on the provision and maintenance of passenger amenities. The allocation of fund for the passenger amenity works has been stepped up from Rs 50 crore in 1992-93 to Rs 60 crore in 1993-94.

For the convenience of general public, easy to remember telephone numbers have been universally allocated to the enquiry and reservation offices at important stations all over India. These are as under: for enquiry 131; reservation enquiry 135; taped enquiry 1331, 1332, 1333 and 1334. To guide the passengers regarding location of various passenger amenities, 38 standard pictograms have been developed for display at major railway stations. The pictograms improve communicative clarity and visibility from

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a distance are universally understood. These are of much help particularly to foreign tourists and illiterate passengers. About 225 stations have been selected for the purspose of providing these pictograms. Work has already been undertaken at a number of stations.

Passenger reservation has always been a matter of major concern with the public. Computerisation of passenger reservation service was, therefore, taken in hand by the Indian Railways as a priority project in 1985 and implemented with great speed. Computerisation of reservation services on Indian Railways has revolutionised the quality of service rendered to the passengers on the reservation front which has been widely appreciated. Passengers reservations have been computerised in 38 cities. The work is in progress in 17 cities in addition. With the completion of these works, nearly 70 per cent of the reservation work would be covered by computerisation. When works for 12 cities which have been sanctioned for 1993-94 will be completed, the percentage of computerised reservations to the total quantum of reservations will rise to about 80 per cent. Besides, facilities for onward and return journey through computerised system has also been provided between the four metropolitan cities *i.e.*, Madras, Calcutta, Bombay and Delhi. Secunderabad has also been partially brought under this limited net-working by revision of links with Bombay and Calcutta.

PUBLIC SECTOR UNDERTAKINGS

There are five undertakings under the administrative control of the Ministry of Railways *viz.*, (i) Rail India Technical and Economic Services Limited (RITES); (ii) Indian Railway Construction Company Limited (IRCON), Indian Railway Finance Corporation Limited (IRFC); (iv) Container Corporation of India Limited (CONCOR) and ; (v) Konkan Railway Corporation Limited (KRC). Centre for Railway Information Systems (CRIS) was set up as a registered society to design and implement various railway computerisation projects.

ROAD

India has one of the largest road networks in the world. The country's total road length was 19,98,434 km in 1988-89. Seventh Plan laid emphasis on a coordinated and balanced development of road network in the country under (i) primary roads comprising national highways; (ii) secondary and feeder road system covering state highways and major districts roads; and (iii) rural roads including village roads and other districts roads. Substantial outlays were proposed for road development in the rural and tribal areas. In the first three Five Year Plans and three Annual Plans Rs 1,121.58 crore was spent on road development. During Fourth, Fifth, one Annual Plan and the Sixth Plan Rs 5,160.09 crore was spent on this. Outlay for road development under the Seventh Plan for Central sector was Rs 1,019.75 crore, for state sector Rs 3,666.98 crore and for union territories Rs 513.31 crore. During the Seventh Plan Rs 6,179.75 crore was spent on road development. During the Annual

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Plans 1990-91 and 1991-92 an amount of Rs 410.23 and Rs 456.52 crore has respectively been spent on Central sector roads. For state sector roads an amount of Rs 1,303.05 crore was spent during 1990-91 and outlay of Rs 1,575.68 crore was approved for the year 1991-92. For the Eighth Five Year Plan an outlay of Rs 2,600 crore and Rs 10,610 crore has been approved for Central sector roads and state sector roads respectively.

NATIONAL HIGHWAYS

Government is responsible for national highway system. In 1947 approximately 2,500 km of missing roadlinks and thousand of culverts and bridges which did not exist, were required to be constructed to have an integrated and continuous network. There was an increase in missing road links with addition of new roads to the national highway system in later years. Upto 31 March 1992, road links including diversions constructed totalled 4,624 km, improvement of low grade section completed were 19,889 km, widening and strengthening single lane section to double lane carriage was done in 24,161 km, widening to four-lane completed in 346 km, strengthening of weak two lane pavement has been done in 10,542 km. In addition 494 km of major bridges and 2,701 of minor bridges were also completed. Present national highway system includes a total road length 34,058 km. An expenditure of Rs 1,481.70 crore during the Seventh Plan and Rs 390.06 crore during 1990-91 and Rs 424.24 crore during 1991-92 had been incurred on development of national highways. During Eighth Five Year Plan an outlay of Rs 2,460 crore has been allocated for development of national highways. Though the national highways constitute only two per cent of the total road length, they carry nearly 40 per cent of road traffic. World Bank is providing loans assistance of US dollar 13.3 crore for improvement of national highways in five states namely Gujarat, Haryana, Punjab, Tamil Nadu and West Bengal. Asian Development Bank is providing loans worth 19.8 crore US dollor for development of national highways in three states namely Andhra Pradesh, Haryana, Uttar Pradesh and for state roads in three states namely, Andhra Pradesh, Karnataka and Tamil Nadu under Package-I. In addition a second loan agreement worth US dollor 25 crore has been signed with Asian Development Bank for improvement of national highways in Karnataka, Kerala, Rajasthan and of state roads in Andhra Pradesh, Orissa, Uttar Pradesh and West Bengal under Package-II. Agreements have also been signed with World Bank for second loan/credit for US dollor 30.6 crore for development of national highways in six states namely Haryana, Madhya Pradesh, Maharashtra, Orissa, Punjab and West Bengal under Package-II. The project also includes reconstruction of flood damaged bridges in the state roads of Orissa.

Four laning of Mathura-Agra Section of 51.33 km length of National Highway No. 2 in Uttar Pradesh is being assisted by Overseas Economic Cooperation Fund (Japan) loan worth dollor 485.5 crore Japanese Yen. Agreement has been signed on 10 January 1992.

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STATE SECTOR ROADS

State highways and district rural roads are the responsibility of state governments and are maintained by various agencies in states and union territories. Roads are being developed in rural areas, under Minimum Needs Programme (MNP), the objective of it being to link all villages with a population of 1,500 with all-weather roads. Government also assists in development of certain selected roads in states.

BORDER ROADS

Border Roads Development Board was set up in March 1960 for accelerating economic development and strengthening defence preparedness through rapid and co-ordinated improvement of road communication in north and north-eastern border areas. Development activities now encompass Rajasthan, Jammu and Kashmir, Himachal Pradesh, Maharashtra, Uttar Pradesh, Sikkim, Assam, Meghalaya, Nagaland, Tripura, Manipur, Mizoram, Arunachal Pradesh, Bihar, Andaman and Nicobar Islands and also Bhutan. Border Roads Organisation (BRO) executes its work departmentally. As on 31 March 1992, BRO had constructed about 23,460 km of roads. It is also maintaining about 18,000 km of roads in various regions of its operations.

LENGTH OF ROADS

Total length of roads in India was 19,98,434 km (both surfaced and unsurfaced roads) in 1988-89. Statewise break-up of the length of roads is given in table 22.2.

TABLE 22.2 ROAD LENGTH IN INDIA

(Km)

	Surfaced	Unsurfaced	Total
ALL INDIA	9,64,072	10,34,362	19,98,434
STATES			
Andhra Pradesh	75,232	63,679	1,38,911
Arunachal Pradesh	2,140	4,988	7,128
Assam	9,807	54,857	64,664
Bihar	30,491	54,424	84,915
Goa	3,776	2,102	5,878
Gujarat	65,295	11,524	76,819
Haryana	23,651	2,180	25,831
Himachal Pradesh	11,028	13,003	24,031
Jammu and Kashmir	7,654	5,439	13,093
Karnataka	87,321	65,781	1,53,102
Kerala	40,206	1,72,652	2,12,858
Madhya Pradesh	73,463	54,547	1,28,010
Maharashtra	1,40,853	75,880	2,16,733
Manipur	2,351	4,222	6,573
Meghalaya	2,429	3,797	6,226
Mizoram	1,388	2,029	3,417
Nagaland	5,688	2,343	8,031
Orissa	19,279	1,54,357	1,73,636
Punjab	42,201	11,895	54,096
Rajasthan	55,784	56,002	1,11,786
Sikkim	1,485	59	1,544

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Tamil Nadu	1,27,427	66,191	1,93,618
Tripura	4,192	9,886	14,078
Uttar Pradesh	87,123	1,00,953	1,88,076
West Bengal	28,827	32,667	61,494
UNION TERRITORIES			
Andaman and Nicobar Islands	740	32	772
Chandigarh	1,472	-	1472
Dadar and Nagar Haveli	292	23	315
Daman and Diu	-	-	-
Delhi	10,921	7,914	18,835
Lakshadweep	-	-	-
Pondicherry	1,556	936	2,492

Note: Data given above is as on 31 March 1989.

SHIPPING

Overseas shipping has an extremely important role to play in India's international trade. The country has the largest merchant shipping fleet among developing countries and ranks 18th in the world in shipping tonnage. As on 31 December 1992, the operative tonnage consisted of 430 vessles totalling to 6.275 MGRT.

SHIPPING BODIES

National Shipping Board is statutory body set up under the Merchant Shipping Act 1958 to advise the government on shipping matters. Ship Acquisition Licensing Committee deals with ship acquisition proposals received from shipping companies. Inter-ministerial highlevel committees look into problems of the shipping companies. Indian National Shipowners Association seeks to promote the interest of national shipping and other allied industries.

SHIPPING COMPANIES

There were 55 shipping companies in the country in operation as on 31 December 1992 including the Shipping Corporation of India, a public sector undertaking. Of these, 29 are engaged exclusively in coastal trade, 20 in overseas trade and the remaining six in both coastal and overseas trade. Shipping Corporation of India, which is biggest shipping line of the country, had a merchant fleet of 127 vessels of 30 lakh GRT as on 31 December 1992 and operated on almost all maritime routes. Shipping Corporation of India tonnage accounts for about 48.46 per cent of the total India tonnage. Major private sector shipping companies which own one lakh or more GRT are (i) Great Eastern Shipping Company Limited (5.40 lakh GRT); (ii) Scindia Steam Navigation Company Limited (2.25 lakh GRT); (iii) Essar Shipping Limited (2.09 lakh GRT); (iv) Chowgule Steamships Limited (2.16 lakh GRT); (v) South India Shipping Corporation Limited (1.85 lakh GRT); (vi) India Steamship Company Limited (2.63 lakh GRT); (vii) Surrendra Overseas Limited (1.56 lakh GRT); and (viii) Century Shipping (1.59 lakh GRT).

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COASTAL SHIPPING

Coastal shipping is the most efficient and comparatively cheaper mode of transport for carriage of bulk traffic over long hauls particularly when origin and destination of traffic stream is located along the coast. India has a long coast-line of 5,560 km. coastal shipping plays an important role in integrated transport network of the country particularly when inland modes are strained. Seventh Plan had targetted a coastal GRT requirement of 3.1 lakh by 1989-90 as compared to 2.37 lakh GRT at the end of the Sixth Plan. The coastal tonnage was 3.12 lakh GRT on 1 April 1985 (beginning of Seventh Plan) and on 30 November 1991 it was 5.61 lakh GRT.

Coastal shipping faces several constraints. Overaged vessels are fuel inefficient and involve high maintenance and operation costs. This had led to increase in bunker costs, operating expenses, higher stevedoring charges and uneconomic freight structure which do not compare well with either rail or road. Furthermore, coastal shipping carries low-rated bulk commodities like coal, cement and salt for which railway freight rates are lower with consequent consumer preference for rail transport. Inordinate delays at ports too effect competitive advantage of coastal shipping. It has been estimated that ships spend seventy per cent of their time at ports. Apart from cumbersome port and customs procedure, other restrictions like inadequate draft have precluded optimal utilisation of shipping capacity. There are also directional imbalances in coastal traffic movement. Empty movement (sailing in ballast) is very often undertaken by the coastal vessels following unloading of coal at ports. During the Seventh Plan, efforts were made to relieve constraints effecting coastal shipping operations to maximum extent possible. Overaged vessels were replaced with modern fuel efficient vessels wherever possible. Present customs procedures were simplified to some extent for speedy clearance of coastal vessels. Procedure for revision of freight rates has been simplified to the extent possible.

INDIAN REGISTER OF SHIPPING

India's National Ship Classification Society was formed in March 1975 under the Companies Act, 1956. Its main objectives are: (i) to provide a faithful and accurate classification and record of mercantile shipping classed with Indian Register of Shipping (IRS); (ii) to establish and administer standards for the construction and periodical survey of ships and other marine structure; (iii) to approve design of, to survey and to issue reports on landbased installations, machinery, materials, and apparatus of all kinds; and (iv) to aid and develop marine technology in India through research and development work.

IRS has its head office in Bombay and outport offices at Bombay, Calcutta, Visakhapatnam, Madras, Cochin, Goa, Pune, Rourkela, Tiruchirapalli. Kandla and Delhi. General Insurance Corporation of India and Tariff Advisory Committee accept all India flag vessels, irrespective of type, sum insured and trading warranty for full insurance even if singly classed with

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IRS without warranting any non classification extra. Government has authorised the IRS to assign international load lines and carry out cargo ship safety construction surveys of India flag ships. At present 224 (full term certificate issued) ships have been assigned these load lines. In order to maintain acceptable standards and provide worldwide coverage for its services, IRS has entered into agreements of mutual co-operation with all major international classification societies by virtue of which ships can also be classed dually with IRS as well as corresponding society with arrangements for survey all over the world. These agreements also enable IRS to get technical backup whenever required for its varied services from different sources.

By April 1992 the Society has 841 ships totalling 53.35 lakh GRT in its class and 192 ships of various types under construction in India and abroad under IRS class. IRS is actively involved in inspection and certification of machinery equipment and component at manufacturers works. IRS also provides specification services on behalf of owners who cannot generally spare their expert personnel for day to day supervision of new construction at shipyards. It has so far provided such services for about 121 vessels both in India and abroad. In non marine industrial sector, the IRS provides third party independent inspection services. Organisations like Oil and Natural Gas Commission, Indian Oil Corporation, Oil India Limited, Maharashtra Water Supply Board, Calcutta Port Trust, Bharat Heavy Plates and Vessels, Mazagon Dock Limited, Garden Reach Shipyard and Engineers Limited, Kandla Port Trust, Hindustan Shipyard Limited, Cochin Shipyard Limited, Gujarat Electricity Board and BHEL have availed of such services for a variety of equipment including electrical level luffing cranes, pressure vessels, flame proof equipment, special pipes of API standards, high voltage and high power equipment, fire-fighting equipment, etc. IRS has also provided its third party inspection services to project consultants such as UHDE for inspection of storage tanks for petroleum, ammonia and nitric acid at sites of Tamil Nadu Petroproducts Limited, Mangalore Chemicals and Fertilizers Limited and Gujarat Narmada Fertilizer Corporation Limited.

SHIP BUILDING

There are four major and three medium size shipyards in India in the public sector. Apart from these, there are about 35 small shipyards in private sector which cater to domestic requirements for small craft. Maximum size of vessels that could be constructed in Cochin Shipyard, Cochin and Hindustan Shipyard, Visakhapatnam are 86,000 DWT and 45,,000 DWT respectively. Cochin Shipyard Limited has delivered two tankers of the series of three 86,000 DWT tankers for Shipping Corporation of India. These were constructed for the first time in the country. Small Shipyards are geared up for meeting the country's requirements for small/medium size crafts and fishing vessels. Sixty fishing vessels have been delivered so far for private

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entrepreneurs and 28 fishing vessels are under construction in various shipyards.

The ship-building industry is open to private sector, irrespective of the size of ship. The following fiscal and financial incentives are available to the ship-building industry: (a) the shipyard constructing vessels under bond are entitled to duty free import of raw materials, components consumable and spares required in the manufature of ships; (b) the shipyards registered with the Ministry of Surface Transport for constructing deep sea fishing trawlers above 20 meters in length are entitled to 33 per cent subsidy on the price of the trawler in addition to price preferential limited to 10 per cent for indigenous trawlers. Duty free import of components and equipments upto a value of 30 per cent of the cost of the trawler from a specified list. These components and equipments are permitted to be imported duty free by such yards also which do not have bonded warehousing facilities.

SHIP REPAIR

Of the 17 dry docks in the country, 13 are available for commercial ship repair activities. While dry docks at Cochin and Visakhapatnam can accommodate maximum size of one lakh DWT and 57,000 DWT respectively. Other dry docks can accommodate ships upto 10,000 DWT range. In addition, ship repair facilities have been set up at Madras port by a private entrepreneur with two floating dry docks of 14,000 TLC and 2,400 TLC respectively which can cater for ships of 40,000 DWT and 8,000 DWT respectively. A number of proposals for setting up comprehensive ship repair facilities at major ports are under consideration.

NATIONAL SHIP DESIGN AND RESEARCH CENTRE (NSDRC)

A premier national institution namely National Ship Design and Research Centre (NSDRC) has been established at Visakhapatnam as an autonomous body under the administrative control of Ministry of Surface Transport. This institute has been set up with a view to provide a National Technological infrastructure to assist Indian ship building and shipping industries. It has the following objectives: (i) to assist shipping and ship-building industry with design, consultancy, research, maritime information and computer services; (ii) to strive for the elevation of standard of Indian maritime sector so as to keep it on par with international standards; (iii) to save foreign exchange hitherto being spent by the industries for the procurement of designs from abroad and (iv) to offer services to the industry in matters of improving efficiency and productivity.

ANCILLARY DEVELOPMENT

Ministry of Surface Transport provides grant-in-aid to the entrepreneurs who take up indigenous development of ancillaries for ship building. The grant-in-aid available can be to the extent of 70 per cent of the total development

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भारत-रेलवे तथा समुद्र-मार्ग INDIA-RAILWAYS AND SEA-ROUTES

Based upon Survey of India Map with the permission of Surveyor General of India.

Projection: Lambert Conical Orthomorphic.

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line

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TJK.....TAJIKISTAN
TRK.....TURKMENISTAN
UZB.....UZBEKISTAN

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cost. For availing grant-in-aid, the private entrepreneurs are required to apply to the public sector shipyard who, in turn, would sponsor the proposal for consideraion of the Ship Ancillary Development Committee under the Ministry.

HINDUSTAN SHIPYARD LIMITED

Hindustan Shipyard Limited at Visakhapatnam was set up in 1941 in the private sector Scindia Steam Navigation Company Limited. Because of difficulties faced by the owners, the government was requested to take over the shipyard and accordingly a new company *viz.*, Hindustan Shipyard Limited, was incorporated in 1952. In 1962, the shipyard became a cent per cent public sector enterprise. Thereafter in 1971, ship repair facilities were added besides various development programmes for augmenting installed capacity of the yard. An off-shore platforms yard for construction of well platform for ONGC was set up in 1985. The present capacity of the yard is two platforms per year. The shipyard has plans to increase the capacity to three well-platforms during the Eighth Plan period. With the completion of Stage II Modernisation and Expansion Programme, the capacity of the shipyard was increased to the equivalent of 3.5 pioneer class vessels by 1989-90. The shipyard has produced and delivered 104 vessel of different sizes and specifications *viz.*, dumb barges, bulk carriers, product carriers, passenger-cum-cargo vessels and high technology drill ships besides petrol supply-cum-support vessels in addition to off-shore well-ahead-platforms. The shipyard has already successfully completed and commissioned two off shore platforms in Bombay High for ONGC. The shipyard has also delivered subsequently nine jackets and two decks to ONGC which have been installed at Bombay High.

HOOGHLY DOCK AND PORT ENGINEERS LIMITED

Hooghly Dock and Port Engineers Limited, Calcutta (HDPE), came into existence on 30 June 1984, as a new government company. Its one of the many objectives is to acquire the business of Hooghly Docking and Engineering Company Limited, one of the oldest shipyards in India. The company comprises of two working units in Howrah district of West Bengal, one at Salkia and another at Nazirgunge. Salkia Works constructs various types of ships, passenger and other vessels craft, dredgers, tugs, floating dry-docks, fishing trawlers, off-shore platform supply-cum-support vessels for ONGC, multiple harbour vessels, light-houses tender vessels for department of lighthouses and light-ships, etc. This unit has an outfit at Kidderpore Dock Complex of Calcutta port for repairs of types of ocean-going vessels and dredgers. Another, 'Nazirgunge Works' is engaged in the construction of fishing trawlers, fire floats, barges, mooring launchers, grab hopper dredgers, etc., and repairs of different types of vessels besides general fabrication and machining jobs.

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COCHIN SHIPYARD LIMITED

Cochin Shipyard, set up with Japanese collaboration, is designed to have a dock for building ships upto 85,000 DWT and a repair dock to accommodate ships upto 1,00,000 DWT. The shipyard has so far built and delivered five bulk carriers of 75,000 DWT each and two crude oil tankers of 86,000 DWT each. It has orders in hand for one more oil tankers of 86,000 DWT. The second tanker in this series was launched in 29 February 1992 and delivered to SCI on 29 October 1992.

AIDS TO NAVIGATION

The government looks after general navigational aids while states port trusts and other agencies are responsible for local aids. However, under the Lighthouse Act, 1927, the government exercises general control over all aids through Department of Lightbuoys and Light-ships, which in turn maintains various navigational aids along the coast of India besides launchers and HF/VHF/ radio telephone sets. There are among others 155 lighthouses, 12 lightbouys, 14 radio beacons, 12 decca chain stations, one light vessel, 12 racons and 39 HF/VHF/RT sets.

TRAINING INSTITUTIONS

There are three training establishments for the merchant navy officers. TS Rajendra at Bombay imparts pre-sea training to navigation caders. Lal Bahadur Shastri Nautical and Engineering College Bombay, conducts Post-sea Instrumental Courses in Navigation and Engineering. The Directorate of Marine Engineering Training at Bombay and Calcutta impart training to the marine engineering cadets.

INLAND WATER TRANSPORT

India has got about 14,500 km of navigable waterways which comprises of rivers, canals, backwaters, creeks etc. At present, however, a length of 3,700 km of major rivers is navigable by mechanised crafts but the length actually utilised is only about 2,000 km. As regards canals, out of 4,300 km of navigation canals, only 900 km is suitable for navigation by mechanised crafts. About 160 lakh tonnes of cargo is being moved by Inland Water Transport.

Inland Water Transport (IWT) is a fuel efficient and environment friendly mode. It is also known for higher employment generation potential. IWT operations are currently restricted to a few stretches in the Ganga-Bhagirathi, Hooghly rivers, the Brahmaputra, the Borak river, the rivers in Goa, the backwaters in Kerala and in the deltaic regions of the Godavari-Krishna rivers. Besides, the organised operations by mechanised vessels, country boats of various capacities also operate in various rivers and canals.

CENTRAL INLAND WATER TRANSPORT CORPORATION

The Central Inland Water Transport Corporation with its headquarters at

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Calcutta was set up as a public undertaking in May, 1987. The CIWTC is mainly engaged in transportation of goods by Inland Waterways in the Ganga-Bhagirathi-Hooghly, Sunderbans and the Brahmaputra rivers. They are operating regular cargo services between Calcutta and Pandu (near Guwahati) between Calcutta and Karimganj (Assam), Calcutta-Bangladesh and between Haldia and Patna. The corporation is also having a shipyard called Rajabagan Dockyard in Calcutta which is engaged in the construction and repair of inland vessels and harbour crafts. A deep-sea ship repair division with units at Calcutta and Port Blair is also functioning under CIWTC.

INLAND WATERWAYS AUTHORITY OF INDIA

The Inland Waterways Authority of India was set up on 27 October 1986 as a statutory body corporate under the Inland Waterways Authority of India Act, 1985. The authority is entrusted with the responsibility of development, maintenance and regulation of national waterways and also to advise the Central and the state governments on matter relating to development of IWT.

NATIONAL WATERWAYS

Considering the need to develop inland waterways transport to play its rightful role in the transport network of the country the government had identified ten important waterways for consideration to declare them as national waterways. Already, the Ganga between Allahabad and Haldia (1620 km) has been declared as National Waterways No. 1 on 27 October 1986 and the Sadiya-Dhubri stretch of the river Brahmaputra (891 km) has been declared as National Waterways No. 2 on 26 December 1988. The government has also declared the Kollam-Kottapuram stretch of west cost canal, the Champakara Canal and Udyogmandal canal in Kerala as National Waterway with effect from 1 February 1993 . This National Waterway is proposed to be developed at an estimated cost of Rs 62 crore. An amount of Rs 33 crore has been spent by IWAI for development of the national waterways so far.

PROTOCOL WITH BANGLADESH

In pursuance of the trade agreement entered into between India and Bangladesh, a Protocol on Inland Water Transit and Trade between the two countries has been in operation since November 1972, to make mutually beneficial arrangements for the use of each other's waterways for commerce between two countries and also for transit of Indian vessels through Bangladesh. The protocol which was renewed on 3 October 1991 was valid for two years from 4 October 1991 to 3 October 1993. An outlay of Rs 240 crore has ben provided for IWT sector in the Eighth Five Year Plan as against the expenditure of Rs 131.81 crore in Seventh Plan. A provision of Rs 30 crore has been made for development of IWT in each Annual Plans of 1992-93 and 1993-94.

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PORT

There are 11 major ports in the country apart from about 139 minor working ports along the coastline of about 5,600 km. Major ports are the direct responsibility of the Central Government, while minor ports including intermediate ports fall in the Concurrent list of the Constitution and are managed and administered by the respective maritime state governments.

MAJOR PORTS

Kandla, Bombay, Mormugao, New Mangalore, Cochin and Jawaharlal Nehru Port of Bombay (a new port) are the major ports of west coast. The Jawaharlal Nehru Port is equipped with modern facilities having mechanised container berths for handling dry bulk cargo and service berth, etc. On the east coast, Tuticorin, Madras, Visakhapatnam, Paradip and Calcutta-Haldia are the major ports. All the major ports are administered in accordance with the provisions of the Major Port Trust Act, 1963. Each major port has a board of trustees representing various interests connected with the port operations and the shipping industry. Among the major ports, Bombay handles over one fifth of the total traffic of the ports, bulk of which consists of petroleum products and dry cargo. Kandla is a 'Tidal Port'. A free trade zone has been set up here. It handles all types of traffic. Mormugao occupies fifth position in terms of total quantum of traffic handled. Facilities for export of Kudremukh iron ore were specially developed at New Mangalore. Cochin is a natural harbour. Tuticorin port handles mainly coal traffic.

Madras is one of the oldest ports on the east coast. The traffic handled at this port consists mainly of crude oils and iron ore. Visakhapatnam is the 'deepest port'. where an outer harbour has been developed for exporting iron ore and a berth has been constructed for crude oil and also petroleum products as well as a multi-purpose general cargo berth. Paradip handles iron ore and some quantities of coal and dry cargo. Calcutta is a riverine port handling diversified commodities. A new mechanised dock system at Haldia with provision for deep draft vessels supplements the facilities available at Calcutta. Haldia has fully equipped coal handling oil and containerised berths.

Cargo handled at major ports was to the tune of 1,579 lakh tonnes during 1991-92 which was 3.3 per cent higher than 1,529 lakh tonnes handled in 1990-91 and 1.8 per cent above the target of 1,550 lakh tonnes. Increases were mainly recorded in the traffic of POL, iron ore, fertilizer, coal and foodgrain. The fertilizer raw-material traffic gone down as compared to 1990-91. Cargo handled at all the major ports except Bombay increased during 1991-92 over the previous year. The container traffic in 1991-92 recorded a decrease of over 4.5 per cent. About 76 lakh tonnes of containerised cargo was handled in 1991-92 as compared to 80 lakh tonnes in 1990-91. More than 45 per cent of a container traffic continued to be handled at the Bombay port.

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MINOR AND INTERMEDIATE PORTS

Minor/intermediate ports are in the Concurrent list of the subjects in the Constitution of India. State governments are responsible for the management and the development of these ports. Accordingly, allocation for the development is provided in the respective state sector plans by the Planning Commission. However, funds for the development of port facilities in Andaman and Nicobar Islands, Lakshadweep, etc., are provided in the Central sector plan.

DREDGING CORPORATION OF INDIA

The Dredging Corporation of India was set up in March 1976 and started its commercial operation from 1 April 1977. The Corporation has been rendering maintenance and capital dredging services in major ports, minor ports, shipyards, shipping harbours, navy, state governments, etc. At present the Corporation has nine self-propelled dredgers and five non-propelled dredgers besides other ancillary crafts. The Corporation dredged a quantity of about 349.52 lakh cu m of soft materials during 1991-92. The Corporation achieved a turnover of Rs 110.20 crore and earned a profit of Rs 12.80 crore during 1991-92.

CIVIL AVIATION

ORGANISATION

In a vast country like India, which still has areas where rail and road transport are practically non-existent, air transport plays a major role in the transportation system of the country. Over the years, civil aviation has undergone a large scale transformation. There has been a sustained effort to support and augment the existing network of airlines through perspective planning, modernisation and development of infrastructural facilities taking into account the future role of air transport in the planned development of the country.

Air India and Indian Airlines are catering to the international and domestic air traffic respectively. Vayudoot's network, which acts as a feeder line, links remote places with the mainstream of commercial/industrial cities and townships. Another operator, Pawan Hans, is involved mainly in offshore operations. Further support is provided by air taxi services of private operators. India has been a member of the International Civil Aviation Organisation (ICAO). India got elected to the Council of ICAO in the triennial elections held in September 1992 at Montreal by a record margin of votes.

DEPARTMENT OF CIVIL AVIATION

Department of Civil Aviation under the Ministry of Civil Aviation and Tourism is responsible for formulation of the national policies and programmes relating to development and regulation of civil aviation including provision of aerodromes and regulation of air traffic and carriage of passengers and

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goods by air. The Department aims at devising and implementing programmes for orderly growth and expansion of civil air transport.

POLICY INITIATIVES

It has been decided to restructure Air India and Indian Airlines by converting them into Companies under the Companies Act, 1956, to enable them to tap the capital market for equity funds to meet their growth requirments. A bill has been introduced in the Parliament. It is also proposed to amlgamate the International Airports Authority of India and National Airports Authority into one entity so that the combined resources of the two organisations can be used for optimum utilisation for meeting the growing infrastructural requirements of the fast expanding aviation industry. Provision relating to import of aircraft under Air Taxi Scheme has been liberalised.

CARGO

In order to help the Indian exporters and to make their exports more competitive, the government had introduced in April 1990 an 'open sky policy' for cargo. Under this policy any foreign airlines or association of exporters can bring freighters to the country for upliftment of cargo. The government have also permitted market forces to determine tariff with IATA rates as the floor rates.

TOURIST CHARTER FLIGHTS

The air charters bringing foreign tourists in the country are now allowed to operate to certain domestic airports cleared for tourist charter operations in addition to the international airports. The minimum payment to the Indian tour operator by the foreign charter operator is US dollar 350 per person for seven days package for the period from 1 October to 31 March and US dollar 300 for the period from 1 April to 30 September. This is being reduced to US dollar 150 for charters from SAARC countries

AIR TAXIS

Air taxi services can now operate non-scheduled flights to all airports in the country which are open to civil operations. The air taxis can operate non-scheduled flights both as a charter or on a non charter basis. There is no seat limitation for aircraft to be used for air taxi operations. Also the air taxi operatiors are now free to charge any fare at their discretion without reference to fares charged by Indian Airlines and Vayudoot. The rules regarding import of aircraft for taxi service have been simplified, allowing Indians to start air taxi operation without NRI participation. The requirement of obtaining licence for import of aircraft, components, etc., has been dispensed with.

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REGULATORY FUNCTIONS

Directorate General of Civil Aviation (DGCA) is the regulatory organisation for enforcing civil air regulations, air safety and airworthiness standards. It is responsible for (i) regulation of air transport services to/from/within India; (ii) formulation and implementation of standards of air-worthiness applicable to all civil aircraft registered in India; (iii) certification of aircraft operators and licensing of air crew, engineers and airports; (iv) investigation of air accidents and incidents; and (v) rendering advice on matters relating to air transportation and processing of aviation legislation. DGCA also co-ordinates all regulatory function with the International Civl Aviation Organisation (ICAO).

The Bureau of Civil Aviation Security (BCAS) is responsible for the formulation of the National Civil Aviation Security programme and to ensure its application. It monitors the enforcement of the security measures at the airports through periodical/suprise inspections and conduct of dummy checks. It also imparts training in aviation security and familiarisation in the handling of bomb calls and detection of explosive substance to the security staff and the staff of the airport management and air-carriers.

AIRPORT TRAFFIC SERVICES MANAGEMENT

The National Airports Authority (NAA) is responsible for providing safe and efficient air traffic services and aeronautical communication services for effective control of air traffic in the Indian air space. The Authority plans, develops and constructs domestic aerodromes and allied facilities for sustained growth of civil aviation in the country. The Authority, presently, manages 88 domestic aerodromes and 28 civil enclaves. Air Traffic Control Services, Communication Services and Radio Navigational Aids are provided by the National Airports Authority at all the airports including the five International Airports *viz.* Delhi, Calcutta, Madras, Bombay and Thiruvananthapuram. It has a Civil Aviation Training College at Allahabad which imparts training to various operational cadres like communication, ATC/radar controllers, etc., and also has a Fire Service Training School at Narayanpur near Calcutta for imparting training and refresher courses in fire fighting and rescue services. The International Airports Authority of India (IAAI) is responsible for providing services and facilities for efficient operation of air transport at the five International Airports of the country at Bombay, Delhi, Calcutta, Madras and Thiruvananthapuram. The IAAI is also responsible for the planning, construction, maintenance of terminal buildings, airfield pavements, visual ground aids, passenger and cargo handling, airport fire services, etc. at the airports managed by it. It has established an Institute of Aviation Management and the Fire Training Centre at New Delhi to impart training in aviation management and fire fighting/rescue services.

AIR SERVICES

Air India is the international carrier of the country. It operates services to USA, Canada, Europe, Russian Federation, East Asia, Far East and Africa.

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The Corporation owns a fleet of 23 aircraft consisting of B747-200, A300-B4, B747-300 and A310-300. Four B747-400 aircraft are expected to join the fleet during 1993 and 1994. During the year 1992-93, Air India carried 22.01 lakh passengers. India has bilateral air services agreements with 67 countries. The Indian Airlines is the major domestic air carrier of the country. It also provides services to eight neighbouring countries *viz.* Pakistan, Maldives, Nepal, Srilanka, Bangladesh, Thailand, Singapore and UAE. Its operations cover 62 destinations including 9 abroad. The airline owns a fleet of 57 aircraft. It carried 78.2 lakh passengers in 1992-93. Pawan Hans Limited has been providing support services to the ONGC, besides promoting tourism and linking inaccessible areas. Presently, it has an operating fleet of 19 Dauphin and three M1-8 helicopters. Out of these 12 are leased out to ONGC and one each to NTPC, Lakshadweep Islands and Government of Punjab.

The feeder airline Vayudoot's network covers 36 stations of which five stations are in the north-eastern region. Vayudoot has a fleet of 16 aircraft. The Directorate of Agricultural Aviation, which is under Vayudoot, is responsible for conducting aerial operation for fighting locust invasion/breeding, protecting various crops from pests and diseases. It also undertakes aerial seedings.

FLYING TRAINING

Indira Gandhi Rashtriya Uran Akademi located at Fursatganj (UP), an autonomous body under the Department of Civil Aviation, has been set up with a mandate to improve the standards of flying and ground training of commercial pilots in the country. The *Akademi* is equipped with the most modern and sophisticated trainer aircraft and helicopter. It also has flight simulators, Computer Based Training (CBT) System and audo-visual training aids for imparting effective ground training. The *Akademi* conducts Commercial Pilots Licence courses with multi-engine endorsement and instrument rating. Commercial Helicopter Pilots Licence courses for CPL holders are also conducted. There are 28 flying clubs/institutes which impart *ab-initio* flying training and 12 gliding clubs/wings in the country.

TOURISM

Tourism is now recognised as an industry generating a number of social and economic benefits. It promotes national integration and international understanding, creates employment opportunities and augments foreign exchange earnings. Tourism also gives support to local handicrafts and cultural activities.

International tourism in India has grown substantially over the last three decades. Foreign tourist arrivals including the nationals of Pakistan and Bangladesh increased from 16,77,508 in 1991 to 18,67,651 in 1992 registering a growth of 11.3 per cent. India's share in the world tourist market at the beginning of the Seventh Plan was 0.39 per cent, and it remained same by the end of the Plan. On foreign exchange earnings

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during 1991-92 were provisionally estimated at Rs 3,318 crore and for the year 1992-93 at Rs 3,989 crore. Thus, tourism has today become one of the highest net foreign exchange earning sector in the country.

Domestic tourism plays a vital role in achieving the national objectives of promoting social and cultural cohesion and national integration. Its contribution to generation of employment is very high. With the increase in income levels and emergence of powerful middle class, the potential for domestic tourism has grown substantially during the last few years.

In order to further accelerate the development of tourism in the country, the thrust during the Eighth Five Year Plan on various activities are enumerated as under: (a) development of selected tourist places/areas; (b) diversification from culture-oriented tourism to holiday and leisure tourism; (c) development of trekking, winter sports, wildlife and beach resort tourism; (d) exploring new source markets in regions and countries having cultural affinity; (e) restoration of national heritage projects; (f) launching of national image building and marketing plans in key markets; (g) providing inexpensive accommodation in different tourist centres; (h) improving service efficiency in public sector corporations; and (i) streamlining of facilitation procedures at airports. For the Annual Plan 1992-93, the diversification programme included development of wildlife tourism, beach resort, adventure tourism. Thrust was also given to develop facilities for fully tapping the leisure segment, which is one of the fastest growing activities in the world.

ORGANISATIONS

The organisations involved in the development of tourism at the Centre are Department of Tourism, Indian Institute of Tourism and Travel Management, National Council for Hotel Management and Catering Technology and India Tourism Development Corporation Limited.

The Department of Tourism under the Ministry of Civil Aviation and Tourism is responsible for the formulation and implementation of policies and programmes for the development of tourism within the country and for attracting the foreign tourists to India, by way of developing tourist infrastructure, publicity and promotion overseas, dissemination of information of tourist interest, co-ordination and supervision of the activities of various segments of industry and travel trade such as hotels, travel agencies, adventure tour operators etc.

The major activities of Department fall under the following broad heads: (i) human resource development; (ii) promotion and publicity at home and abroad with the object of promoting travel to and within India; (iii) collection, compilation and dissemination of tourist information in India and abroad and attending to enquiries from international tourists and travel agents, airlines, steamship companies, tour operators and hotels; (iv) facilitation work such as simplification of frontier formalities in respect of international tourist; (v) co-operation with international travel and tourism

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organisations at government and non-government levels; (vi) development of tourist facilities and infrastructure at places of interest to international and domestic tourists; (vii) regulation and development of activities of various segments of the travel trade such as hotels, travel agents, tour operators, adventure tourism, guides, tourist car operators and shopkeepers catering to tourists' needs; and (viii) compilation of statistics, conducting and commissioning market research and surveys.

There are 20 tourist offices in India, which include four regional offices located at New Delhi, Bombay, Calcutta and Madras. These offices supervise the functioning of other offices at Aurangabad, Goa, Khajurho, Jaipur, Varanasi, Agra, Patna, Bhubaneswar, Bangalore, Hyderabad, Cochin and Port Blair.There is also a sub-regional tourist office in the north eastern region at Guwahati which supervises the work of tourist offices at Shillong, Imphal and Itanagar. A highly competitive market situation countinues to prevail almost the countries of the world who wish to attract tourists from the developed world. Given the prevailing scenario, the existence of the overseas tourist offices of the Ministry of Tourism has acquired considerable importance. These offices are the Ministry's outposts in the traffic generating markets of the world and their prime function is to create an awareness of India as an important/attractive tourist destination. Tourist offices in India and abroad handle tourist enquiries, disseminate tourist information, undertake promotion by means of advertising and publicity, maintain liaison with trade and press. Tourist offices abroad also counter the adverse publicity by the foreign media in respect of various events taking place in India. The feed-back which is received from tourist offices abroad helps us in determining the overseas marketing policy of the Ministry of Tourism. With the objective of achieving optimum impact, the Department of Tourism and Air India under the operational schemes are engaged in joint promotional efforts in Europe, UK, America, East Asia, West Asia and Australia through 18 tourist offices located in various parts of the world.

The India Tourism Development Corporation (ITDC), a public sector undertaking, was established in October, 1966. The activities of the corporation include (a) construction, managment and marketing of hotels, restaurants, travellers lodges for tourists at various places in the country; (b) provision of tourist transport facilities; (c) production, distribution and sale of tourist publicity materials; (d) provision of entertainment facilities such as light and sound shows, music concerts, etc., (e) provision of shopping facilities including duty free shops; and (f) provision of consultancy-cum-managerial service in India and abroad.

The Indian Institute of Tourism and Travel Management is an autonomous body set up to impart post-graduate level education in Tourism and Travel Management to meet the demands of professionally trained personnel in the tourism industry. The Institute also organises executive development programmes, seminars and workshops relating to tourism and travel management. The Institute has also assisted several universities for running courses at the post-graduate level.

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The Department of Tourism has accorded a high priority to the development of man-power to meet the growing needs of the expanding hotels, catering and tourism industry. For this purpose, the Department of Tourism have set up 31 institutes of hotel management and catering technology and food crafts in the country. Institutes conduct three diploma courses in the field of Hotel Management, Catering Technology and Applied Nutrition and craft courses in food and beverage services for management of executive level staff. Food craft institutes conduct craft courses for a duration ranging from six months to one year for operational staff.

In order to encourage adventure tourism, professionalisation in this field, the Department of Tourism has set up a National Institute of Water Sports at Goa and the IISM at Gulmarg. The institutes act as a nodal institute for adventure and sports oriented tourism activities in the country. These assist the state governments in building up tourism infrastructure in water sports and winter sports activities.

STRENGTHENING OF TOURISM INFRASTRUCTURE

Development of tourism is primarily the responsibility of the state governments. However, the Central Department of Tourism extends financial assistance for the augmentation of tourism infrastructural facilities like *yatri niwas,* tourist lodges, wayside facilities, restaurants, cafeterias, tourist bungalows, etc. In addition, financial assistance is extended for adventure sports activities, tourist transport, tented accommodation etc. To consolidate the development of tourism infrastructure, it has been decided to develop intensively a few selected areas/circuits; 17 such circuits/areas have been identified for intensive development. It has also been decided to take up four-five focus centre as 'Special Tourism Areas' in consultation with the state governments concerned for integrated development.

HOTEL ACCOMMODATION

The hotel sector forms one of the most important segments of the tourism industry with high potential for employment generation and foreign exchange earnings. To give impetus to this sector, the government provides tax benefits and other incentives to encourage the hotel industry. The Industrial Policy has now placed the hotels and tourism related activities as a priority industry. Foreign investment and collaboration are now facilitated under the new economic policy. Upto 51 per cent foreign equity is now granted automatically. Non-resident Indians investment is allowed cent per cent.

CLASSIFICATION OF HOTELS UNDER THE STAR SYSTEM

The Department of Tourism classifies functioning hotels under the star system into six categories from one to five-star deluxe and the newly introduced category of heritage hotels. The Department also reclassifies these hotels after every three years to ensure that the requisite standards are maintained by these hotels. The Hotel and Restaurant Approval and Clas-

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sification Committee (HRACC) set up for the purpose has representatives from Central Department of Tourism, state governments and hotel and travel industry associations.

By the end of 1992, there were 798 hotels with 47,407 rooms on the approved list of the Department of Tourism. The classified hotels included 96 in one star, 235 in two star, 115 in three-star, 49 each in four and five star, 33 in five-star deluxe and 19 in heritage hotel category. To speed up the work of functioning hotels pending classification/reclassification, four regional committees have been set up in Delhi, Bombay, Calcutta and Madras to conduct inspections of the hotels in one to three star and heritage category hotels. These regional committees became functional with effect from 1 January 1993. During 1992, 59 new hotels with 2,186 rooms and 51 existing hotels with 5,528 rooms were classfied. In addition, 35 restaurants were approved during the year.

HERITAGE HOTELS

A new classification standard of heritage hotels has been introduced to cover functioning hotels in palaces, *havelie,* castles, forts and residences built prior to 1950. As the traditional structure reflect the ambience and lifestyle of the bygone era and are immensely popular with the tourists, the scheme is aimed to ensure that such properties, landmarks of our heritage, are not lost due to decay and disuse; at the same time by bringing such properties into the approved sector, they will become financially viable besides providing additional room capacity for the tourists. Nineteen properties have been classified in the heritage hotel category providing a room capacity of 651 rooms. Guidelines have also been formulated for conversion of heritage properties into heritage hotels and their approval at project planning stage.

TRAVEL TRADE

Travel Trade and Tourist Services Division of the Department of Tourism is to extend support to the travel trade both national and international and to coordinate with various Central and state governments with the aim to facilitate to tourists and promotion of travel trade. It also interacts with travel trade associations, Travel Agents Association of India (TAAI), Indian Association of Tour Operators (IATO), Tourist Transport Association (TTA) which are national bodies and also with India Convention Promodtion Bureau, Pacific Asia Travel Association (PATA), National and International Chapters, ICCA International, etc., for promotion of tourism.

From April 1992, Department of Tourism has streamlined and simplified the rules regarding the grant of approval to travel agents, tour operators and tourist transport operators so that their service to tourists is standardised and is more broad based for both international and domestic tourists. During the year under review, eight new travel agencies, 25 tour operators and 10 tourist transport operators have been approved. Approval once granted is valid for all time provided no complaints are

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received about them and the necessary papers are submitted annually. With a view to attract more tourist charter flights to India, a system of granting clearance to charter flights has been submitted. A new air-conditioned rake of *'Palace on Wheels'* train has been fabricated. The new rake is already operational in Rajashtan. There is also a proposal to operate a similar train on the Bangalore-Goa sector.

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23 Communications

POSTAL services in India were opened to public in 1837. The first postage stamp was issued in Karachi in 1852 though it was valid only in the Sind province. When a separate department for management of the postal services was set up by the Government in 1854, 700 post offices were already in existence. Since then, postal services have grown not only in terms of the number of post offices, but also by addition of new services. The statute governing the postal services in the country is the Indian Post Office Act, 1898. It vests the Government with the exclusive privilege of collecting, carrying and delivering letters within the country.

NETWORK

Network expansion of the postal services has been very rapid since Independence. Today the country has 1,50,346 post offices as against 23,321 at the time of Independence. The profile of the postal system has also been changing into that of a modern, dynamic organisation. Postal Index Number Code popularly known as PIN was introduced in 1972 to facilitate prompt delivery of mail. Speed Post which was introduced in 1986, has given the post office a leading place in the business of fast mail. Of the 1,50,346 post offices 16,224 are in urban and 1,34,122 in rural areas. A post office serves nearly 5,827 persons and over 21.9 sq km area.

Post offices in rural areas are opened subject to the satisfaction of norms of population, income and distance prescribed for the purpose. Relaxed income and population norms are applicable in the case of hilly, tribal, desert and inaccessible areas, which include minimum anticipated 15 per cent income of the cost, population of 500 in a village or a population of 1000 in a group of villages as against an income of 33 $\frac{1}{3}$ per cent of the cost and population of 3,000 in a group of villages prescribed for normal rural areas. While departmental sub post offices are expected to be self supporting, a loss upto Rs 2,400 per annum is allowed in rural areas and upto Rs 4,800 per annum in hilly backward and tribal areas.

DOMESTIC MAIL

Volume of mail has increased due to industrialisation, increase in population and rate of literacy. Around 3,351.5 million pieces of mail were handled in 1991-92, composed as below.

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	(in million)
Post Cards	681.4
Letter Cards	813.1
Letters/envelopes	1,287.1
Packets	228.2
Parcels	62.2
Registered Mail	272.7
Insured	6.8
Total	3,351.5

Mail is carried by air and surface.

SPEED POST

Speed Post was introduced on 1 August 1986. In this service, mail is delivered within a definite time frame, failing which full refund of Speed Post charges is made. It now covers 62 cities including Delhi, Bombay, Madras, Calcutta, Bangalore, Ahmadabad, Pune, Hyderabad, Kanpur, Cochin, Indore, Vadodara, Guwahati, Jaipur and Surat on the National network in addition to point to point centres.

MONEY ORDER

Money Order service was introduced in 1880. In the domestic money order service, remittance upto a value of Rs 2,000 can be made. In 1991-92, 10,55,67,428 money orders for Rs 25,872 lakh passed through the post. Money Order can also be sent by Speed Post.

PHILATELY

The first Indian postage stamp was printed in the mint at Calcutta and issued in July 1854. The printing of stamps in the Calcutta Mint ceased in November 1855. Thereafter, they were printed in London. The India Security Press was set up at Nasik in 1925 and postage stamps are printed there since then. During 1992, 38 special and commemorative postage stamps were brought out. These included three sets of four stamps each on Adventure Sports, XXV Olympics and Birds of Prey.

INTERNATIONAL MAIL

India is member of the Universal Postal Union (UPU) from 1876 and Asian Pacific Postal Union (APPU) from 1964. These organisations aim at extending, facilitating and improving postal relations among member countries. India has direct postal links with almost all countries of the world. Mail for some countries is exchanged through a third country. International mail originating in India is carried by sea and by air. Expedited Mail Service-International Speed Post was introduced on 1 August 1986 with select

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countries. This service is available now with 63 countries. It is a time-bound service guaranteeing delivery within a stipulated time frame, failing which Speed Post fee is refunded. The country has inward Money Order Service from 33 countries and outward service to Bhutan and Nepal. International Merchandise speed post was introduced on 15 April 1988. Articles other than those for which insurance is compulsory can be sent as merchandise. The service is available for 36 countries.

AGENCY FUNCTIONS

POST OFFICE SAVINGS BANK

Post Office Savings Bank is the largest saving bank with a network of 1,46,410 post offices. On 31 March 1992, outstanding balances in all forms of National Savings in post offices amounted to Rs 56,06,42,060. Gross and net collections during 1991-92 in post offices Savings Bank were Rs 17,36,54,449 thousands and Rs 5,76,50,872 respectively. The gross and net collections during 1990_91 were Rs 178 billion and Rs 84 billion respectively.

POSTAL LIFE INSURANCE

Postal Life Insurance (PLI) came into being on 1 February 1884 as a welfare measure for government employees. The scope of PLI was extended from time to time to other categories of employees. At present, PLI benefits are extended to the employees of Central and state governments, Central and state public sector undertakings including banks, universities, local bodies and defence services. In 1991-92, PLI reached a significant milestone with 18,04,307 policies for a total sum assured of Rs 3,092.34 crore. PLI has a very low expense ratio (about 9.12 per cent). It has always been declaring high bonus and its premium is low. The maximum amount of policy for individuals has recently been raised from Rs 1,00,000 to Rs 2,00,000.

MECHANISATION

Computer based multipurpose machines have been installed in a number of post offices. These machines provide faster service to the customers and improve the productivity of the department.

TELECOMMUNICATION

STATUS OF TELECOMMUNICATIONS SERVICES

As on 31 March 1993 network of our country has 17,368 telephone exchanges with equipped capacity of 79.68 lakh lines and 67.97 lakh direct telephone connections. These exchanges are linked with 28,419 route km of co-axial cable, 39,941 route km of microwave systems, 28,671 route km of UHF systems and 9,960 route km of the latest state-of-the-art optical fibre systems. Country's remote areas are linked to the network through 101 Satellite Earth

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Stations. Out of the 484 district headquarters 482 are having STD facility. Telex facility is available extensively with a total of nearly 56,699 lines. Satellite based Remote Area Business Message Network, a new technology, is under operation for exchange of data, facsimile and telex messages etc. Till date 346 VSATs (Very Small Aperture Terminals) are in operation.

ANNUAL PLAN 1992-93

An outlay for Rs 4,500 crore was approved for the telecommunications services to provide 8.5 lakh new telephone connections in addition to provision of other telecommunication facilities. New 9.87 lakh direct telephone connections were provided to reach a status of 67.97 lakh lines by March 1993 and 482 direct headquarters are now having national subscriber trunk dialling (STD) facility. The national network had 101 Satellite Earth Stations to extend telecommunication services to the remote areas. Status of the various telecommunication services as on 31 March 1993 and achievements during 1992-93 are indicated in table 23.1.

EIGHTH PLAN PROPOSALS

The department submitted the Eighth Plan proposals envisaging an investment of Rs 40,055 crore to the Planning Commission. The proposals provided for increased availability, accessibility, connectivity and reliability. Priority has been given to provide telephone practically on demand in the rural and tribal areas, and to install public telephone in each *Gram Panchayat* and some additional villages so as to cover them by 2000 A.D. The above proposals envisage an addition of 75 lakh new telephone connections with 110 lakh lines of gross addition in switching capacity, extension of STD facility to all exchanges, addition of around 2.77 lakh *Panchayat* phones and availability of the new services.

The Planning Commission approved an outlay of Rs 23,946 crore for extension of the telecommunication services during the Plan period while retaining the physical target of the original Plan. To achieve the physical content of the Plan, the Planning Commission has suggested to increase the resources through other means of financing. With this in view the department has decided to go in for leasing of the switching and the transmission equipments to meet the Eighth Plan objectives.

PERSPECTIVE PLAN (1990-2000)

Besides the 1992-97 objectives indicated above certain landmarks have been indentified for the year 2000. The Department hopes to increase the size of the network from the present figure of around 67.97 lakh connections to nearly 200 lakh connections by the year 2000. An attempt will be made to provide a telephone in each village of the country. It is also hoped to achieve manpower productivity of 25 personnel per 1000 telephone by this time.

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MANPOWER PRODUCTIVITY

It is proposed to increase the manpower producitivty from the present level of about 80 personnel per 1000 telephones (31st March 1992) to about 47 by 1995 and 37 by 1997 and 25 by 2000 AD.

REMOTE AREA BUSINESS MESSAGE NETWORK (RABMN)

A satellite based Remote Area Business Message Network (RABMN) has been established for exchange of data, facsimile and telex message. This is done with the help of micro earth terminals installed at the premises which operate through the INSAT satellite system. It provides for Interactive Data Communication at speeds 1,200 BPS and 9,600 BPs, facsimile, access to public telex network and access to international data banks through the Gateway at Bombay. Any organization in need of data communication connectivity in a closed user group like banking network, civil aviation, air lines, railways, etc. can utilize this network. This service can cater for 1,000 VSATs.

HIGH SPEED (64 KBPS) LEASED DATA CIRCUITS FOR SOFTWARE EXPORT

For facilitating software exports, high speed leased circuits, which can transmit data at speeds upto 64 kbps, have been provided by DOT and VSNL to various international destinations. At present over 50 such circuits are working and a large number of additional circuits are likely to be commissioned during 1993-94.

HIGH SPEED DOMESTIC LEASED CIRCUITS

With the progressive digitalisation of telecom network it has now become possible to provide leased circuits at 64 kbps and 2 mbps. Large corporate houses are coming up with the requirement of 64 kbps circuits for computerising their operation. Presently about 20 numbers 64 kbps circuits are in operation while about 50 circuits are in various stages or implementation and 64 kbps circuits are being provided to the value added service providers also.

PACKET SWITCHED PUBLIC DATA NETWORK (I-NET)

I-NET is a bearer network for fast, reliable flexible and cost effective transport of information. The network offers facilities for inter-linking terminals and computers through packet switches. Subscribers of this network can make international data calls to other networks abroad through the Gateway Packet Switching System of VSNL. Subscribers can also get connected to subscribers of Remote Area Business Message Network of the Department of Telecommunications. I-NET offers facilities like reverse charging, closed user group (a private network capability within the public network), permanent virtual circuit (functions similar to a leased circuit connection) and fast select (small messages installed transmitted instantly in one packet). Expansion of phase I is planned to be completed by end of 1993. In phase II, it is proposed to cover 80 additional cities through this network. Successful experiments have been

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carried out for X. 28 dial up access to I-NET from any of the non I-NET cities by dialling '099' as access code. This service is likely to be commissioned this year from a number of cities depending upon user requirements. Specially an attractive tariff has been designed for 099 access to facilitate spread of data-com facilities all over the country.

HIGH SPEED VSAT DATA NETWORK

A data network capable of providing switched data services at 64 kbps is likely to be commissioned by middle of 1994. It would meet the requirements of bulk data users whose offices/other establishments are spread in various parts of the country and specially in remote areas.

LONG DISTANCE SATELLITE TELEPHONE SERVICES

To provide single channel telephone facility for customers located in remote areas, the Department of Telecommunications is launching long distance satellite telephone service. The service will be provided through customer-owned VSAT working on SCPC channel, linked to the nearest metropolitan city via INSAT domestic satellite network. This facility will also provide data communication on PSTN limited to 2.4 kbps.

VALUE-ADDED SERVICES

During the year 1992-93, the Department of Telecommunications decided to make available the following value-added services on franchise basis: (i) Cellular Mobile Service; (ii) Radio Paging Service; (iii) Electronic Mail; (iv) Videotex; (v) Video Conferencing; (vi) Voice Mail and (vii) Morning Alarm Service. The proposals were invited from Indian registered companies for provision of these services under a licence.

CELLULAR MOBILE TELEPHONE SERVICE

In response to the tender invited by the DOT in March 1992 for franchising the operation of Cellular Mobile Service in the four metro cities of Delhi, Calcutta, Bombay and Madras, thirty bids were received. Fourteen bidders were short-listed and financial tenders issued to them. After financial evaluation, eight bidders, two for each city, were provisionally selected. However, some of the unsuccessful bidders filed a civil writ petition in the High Court of Delhi and the matter became sub-judice. The judgement has since been delivered and is under study.

RADIO PAGING SERVICE

Initially the service is to be introduced in the following urban areas: Delhi, Bombay, Calcutta, Madras, Ahmadabad, Bangalore, Hyderabad, Pune, Kanpur, Nagpur, Lucknow, Surat, Jaipur, Ernakulam, Coimbatore, Vadodara, Indore, Patna, Madurai, Bhopal, Varanasi, Ludhiana, Vishakhapatnam, Chandigarh, Rajkot, Thiruvananthapuram and Amritsar. Tenders for opera-

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tion of Radio Paging Service in these 27 cities on licence basis were invited from Indian companies in July 1992. Eighty-three bidders submitted their bids. Nineteen bids were short-listed after evaluating the bids on the basis of commercial, technical and eligibility criteria. Financial tenders were issued to the short-listed bidders for the second stage of the tenders. Some of the unsuccessful bidders filed civil writ petitions in the High Court of Chandigarh and Delhi. Stay was granted by the High Court of Chandigarh with respect to opening of financial tenders. Since then petition in the High Court of Chandigarh has been dismissed and the High Court of Delhi has clarified that there does not exist any stay. New financial tenders have been opened and evaluation of the tenders is in progress. Hearings with respect to petition filed in the High Court of Delhi are in progress.

With respect to other value added services, proposals have been received for the following services: (i) Electronic Mail; (ii) 64 EKBs Data Domestic Service via Satellite; (iii) Direct Access Code Dialling; (iv) Voice Mail; (v) Videotax; (vi) Morning Alarm; (vii) Video Conferencing and (viii) Audiotex. One proposal for Electronic Mail has been provisionally approved.

TELECOMMISSION

Telecom Mission, popularly known as Mission : Better Communications, was launched in April 1986 as one of the technology missions with the objective of enhancing subscribers satisfaction level by improving quality of service and increasing accessibility of telecom facilities both in urban and rural areas in a time bound way. To give the nation a continuously improving telecom service, areas of thrust like quality of service, accessibility in urban and rural areas, modernisation of telegraph service, provision in telex connections on demand, peneteration of telecom, service in rural, hilly and tribal areas and a major programme of setting up of national digital network were selected; clear-cut objectives and specific targets were fixed, strategies and operational plans were drawn to achieve the mission goals. The time-bound ambitious programme has resulted in substantial improvements in various services as is apparent from the following service indicators:

Performance Parameters	Status during	
	March 1986	March 1993
Local call success rate (per cent)'	90	97.08
STD call success rate (per cent)	20	88.15
Telephone fault rate per 100 stations/month	35	16.31
Talex fault rate per 100 stations/month	62	15.18
Percentage of effective manual trunk calls.	73	80.04
Delivery of telegrams within 12 day light hours (per cent).	29	92.95

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TABLE 23.1 GROWTH AND TARGETS OF TELECOMMUNICATION SECTOR

Component		Unit	Status 31.3.85	Status 31.3.90	Status 31.3.92	Target 1992-93	Actual 1992-93	Status 31.3.93
1.	Switching Capacity	Lakhlines	33.05	52.67	67.84	11.44	11.84	79.68
2.	Direct Exchange Lines	Lakhlines	28.88	45.89	58.10	8.50	9.87	67.97
3.	Tax	Kilolines	87.50	140.80	184.90	49.50	36.60	221.50
4.	Coaxial Systems	Rkms	18,300	24,235	27,307	1,000	1,112	28,419
5.	Microwave Systems	Rkms	22,514	32,992	37,363	3,200	2,578	39,941
6.	UHF Systems	Rkms	6,822	16,212	22,961	3,000	5,710	28,671
7.	Optical Fibre Systems	Rkms		2,323	6,374	3,500	3,586	9,960
8.	Telex	Lines	39,094	49,844	53,425	3,534	3,274	56,699
9.	Panchayat Village Tele	Nos	—	—	68,172	36,500	30,072	98,244
10.	Local PCOs	Nos	—	63,125	1,09,662	43,000	47,438	1,57,150
11	Satellite Stations	Nos	30	84	96	3	3	99

WIRELESS PLANNING AND COORDINATION WING

Wireless Planning and Coordination Wing (WPC), established in 1952, is the national radio regulatory authority responsible for coordination and regulation of radio spectrum usages in the country. It is a nodal agency for all matters concerning International Telecommunication Union (ITU), a specialised agency of the United Nations for all telecommunication matters and Asia Pacific Telecommunity (APT), an inter-governmental organisation of the region. WPC, assisted by its monitoring organisation, performs all functions relating to planning, coordination, assignment, regulations and administration of the uses of radio frequencies in India, clears sites for installation of wireless stations and issues licences for establishment, maintenance and working of wireless stations in India, etc., under the Indian Telegraph Act, 1885. It is responsible for all matters concerning assignment of frequencies and positions in Geostationary Satellite Orbit (GSO) for the Communication Satellite System and necessary coordination in this regard both at national and international levels. It also conducts examinations to award certificates of proficiency for aeronautical and maritime mobile services and for radio amateurs.

MONITORING ORGANISATION

Monitoring Organisation has a network of monitoring stations to support the work of frequency management and implementation of radio regulations. Twenty two such stations are functioning at Ahmadabad, Ajmer, Bangalore,

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Bombay, Bhopal, Calcutta, Darjiling, Delhi, Dibrugarh, Goa, Gorakhpur, Hyderabad, Jalna, Jalandhar, Madras, Mangalore, Nagpur, Ranchi, Shillong, Srinagar, Thiruvananthapuram and Vishakhapatnam.

Four Microwave Monitoring Units are also functioning at Bombay, Delhi, Madras and Calcutta. Five Special Units at Bombay, Calcutta, Delhi, Madras and Hyderabad investigate quantum and sources of man-made radio noise which affects radio communications and suggest remedial measures against such radio spectrum pollution. Ten inspection units at Ajmer, Bangalore, Bombay, Calcutta, Delhi, Hyderabad, Jalandhar, Madras, Nagpur and Shillong carry out region-wise inspection of licensed and authorised radio stations to ensure their adherence to and conformity with radio regulatory and licencing stipulations. An International Satellite Monitoring Earth Station for monitoring emissions from geo-stationery satellites in the arc of our interest (20°E to 140°E) is being established at Jalna.

TELECOMMUNICATION ENGINEERING CENTRE

The Telecommunication Engineering Centre is an establishment of the Department of Telecommunication and functions in close coordination with all the wings of Telecom Commission to introduce new technology and quality product in telecommunication network, on transmission side including external plant system and frequency management, evaluation and type approval, associated products from developing agencies and manufacture. This centre is providing field support for E-10 digital switches in the network, various projects concerning field trial of C-DOT switches (SBM, Max etc.) are in progress. Projects for validation and field trial of new technology switches have been taken up. It is actively involved in software maintenance/development activities for E-10B system, validation of PABX etc; and standardisation of ISDN to the Indian network. Setting up test and validation centre for ISDN and network synchronisation have also been undertaken. Telematic services for improving office automation and business communication and smart card pay phones for NSD/ISD calls are also evaluated in this centre.

In computer area National Centre for Computerised Information System (NC-CIS) in TEC is responsible for standardisation of software packages and system for implementation in the DOT: NC-CIS is also responsible for development, maintenance and upgradation of application software for DOT requirement at national level. The centre is engaged in development and adaptation of indigenous computer networking software based on open standard developed by CCITT/ISD for local area network applications. The centre is responsible for evaluation of new software and for preparation of quality assurance and Acceptance Testing Schedule for hardware and software products. TEC has opened five regional centres at Bombay, Calcutta, Bangalore, Hyderabad and New Delhi to enable the manufacturers desiring of having their products type tested to approach the nearest regional centre for the purpose of obtaining approvals.

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UNDERTAKINGS

TELECOMMUNICATIONS CONSULTANTS INDIA LIMITED

Telecommunications Consultants India Limited (TCIL), set up in 1978 under Ministry of Communications, is a prime multi-disciplinary engineering and consultancy organisation providing a large range of services–consultancy, design, engineering, installation, operation and maintenance, quality control, human resources development, managerial support and transfer of technology in all areas of telecommunications. Starting its business with a modest equity of Rs. 10 lakh in 1978, which was increased to Rs 30 lakh after two years, TCIL has been paying dividend from the first full year of its operation. In last five years, company has given two bonus issues in the ratio of 1:1 (in 1987-88 and in 1992-93). Last year company gave a dividend of 75 per cent. Its net worth as on 31 March 1993 was Rs 80 crore.

It has to its credit a record of achievements. It successfully executed a number of major contracts of varying complexity on turnkey basis in many countries of Africa and West Asia providing appropriate technology at competitive cost. The turnover of the company now exceeds Rs 200 crore (1992-93). In India, TCIL has executed numerous consultancy and turnkey contracts in hi-tech areas. It has set up dedicated networks for large users of telecom services to meet their specialised needs.

VIDESH SANCHAR NIGAM LIMITED

Videsh Sanchar Nigam Limited (VSNL) was formed on 1 April 1986 after conversion of the Department of Overseas Communications Service into a wholly Government owned public enterprise. VSNL is responsible for providing India's external telecommunication services. VSNL operates through the four international telecommunications gateways at Bombay, New Delhi, Madras and Calcutta. These gateways are interconnected through the national telecom links of the Department of Telecommunications. The international circuits are provided through Intelsat Six A Vikram Satellite Earth Station at Arvi near Pune, Ahmed Earth Station near Dehra Dun, three small capacity earth stations (F2 type) at Delhi, Bombay, Calcutta and two submarine cable systems-one between Bombay and Fujairah (UAE) and the second between Madras and Penang (Malaysia).

VSNL offers a wide range of international telecommunication services to meet the general and specific needs of the customers in India. VSNL services include telephone, telex, telegraph, data transmission, bureaufax, leased circuits including data circuits upto 64 SC, radiophoto, television, multi-address broadcast, press newscast, E-Fax, Intelsat business services, Home Country Direct Services, Electronic Mail Services, etc. The International Subscriber Dialling (ISD) is available to 233 countries/destinations from over 2000 cities/towns in India. The number of telephone circuits increased from 3,331 in the previous year to 4,789 during the year ended 31 March 1993. VSNL handles over 6,50,000 international telephone calls

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and 60,000 telex calls every day. It has a work force of 2,852 employees as on 31 March 1993.

VSNL has shown consistently excellent results for the sixth consecutive year ended 31 March 1992. It has earned a total income of Rs 616.54 crore as against the previous year's Rs 395.44 crore. The traffic revenue increased to Rs 582.57 crore from Rs 369.84 crore. The net worth of VSNL is Rs 425.58 crore an increase of Rs 80.40 crore over the preceding year. The net profit for the year was Rs 104.14 crore after providing Rs 39.46 crore for depreciation and Rs 133 crore towards taxes. VSNL has maintained the dividend at the rate of 30 percent on the enhanced paid-up capital of Rs 80 crore for the year ending 1991-92. VSNL has undertaken a massive investment programme amounting to Rs 900 crore for the period 1992-97 of which Rs 500 crore has already been committed. VSNL was one of the public sector companies included in the disinvestment programme of the Government of India in the year 1991-92. Fifteen per cent of the equity shares held by the Government amounting to the face value of Rs 12 crore have been disinvested in favour of certain financial institutions/mutual funds/banks.

MAHANAGAR TELEPHONE NIGAM LIMITED

Mahanagar Telephone Nigam Limited (MTNL) came into existence on 1 April 1986 as a company wholly owned by the Government of India under the Department of Telecommunications of the Ministry of Communications. MTNL has been entrusted with the management, control and operations of telecom services, excluding public telegraph service, in metropolitan limits of Bombay (including New Bombay and Thane) and Delhi. The main objectives set for MTNL at the time of its formation are as follows: (a) to develop, maintain and operate telephone, telex and other telecommunications services—excluding public telegraph services—within the metropolitan limits of Bombay and Delhi and (b) to raise necessary financial resources through market borrowings for developmental needs of telecom services in these cities and for telecommunications network in the country.

The authorised equity share capital of the company is Rs 800 crore out of which paid capital is Rs 600 crore. The company has already disinvested 20 per cent of its shares to various financial institutions/mutual funds and banks.

During 1992-93, MTNL installed 83,558 new connections at Delhi and 1,07,168 at Bombay (which is all-time high). The waiting list under the OYT and special category was cleared upto 30 September 1992 and general category upto 31 March 1988 in Delhi and Bombay. The company has been striving to achieve higher levels of customer's satisfaction and providing a wide range of service to the users. Throughout MTNL has been making profits and paying dividend on its equity share capital. For the last two years the dividend has been maintained at six per cent of the paid up share capital.

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INDIAN TELEPHONE INDUSTRIES LIMITED

Indian Telephone Industries Limited (ITI), Bangalore, India's first post Independance public sector undertaking is a pioneer in telecommunications industry. ITI manufactures the entire range of telecommunications equipment from simple telephones to modern fibre optic systems and satellite communications systems. ITI has grown over the years into a giant undertaking with several manufacturing units spread all over India *i.e.* at Bangalore, Srinagar, Naini, Rae Bareli, Palghat and Mankapur. During 1992-93, a sales turnover of Rs 1,485 crore was achieved. Gross profit of the company was Rs 187 crore.

HINDUSTAN TELEPRINTERS LIMITED

The Hindustan Teleprinters Limited, Madras was incorporated in December 1960 as a Government company under the control of Ministry of Communications. The company has been mainly manufacturing teleprinters—electro-mechanical and electronics. The manufacture of electro-mechanical teleprinters has since been phased out and electronic teleprinters is also likely to be phased out in next few years. The company has since diversified its activities and has entered into manufacture of switching equipment and other allied products. During 1992-93, the company produced 11,000 electronic teleprinters and other products such as MDF and C DOT Exchanges. A sales turn over of Rs 80 crore was achieved. The gross profit was Rs 14 crore.

INDUSTRIAL DEVELOPMENT AND EXPORT PROMOTION

All activities relating to development and regulation of telecom industry were transferred from Department of Electronics to Telecom Commission in 1989. A separate group was set up in the Telecom Commission to look after this activity. Telecom industry has shown a steady growth during the last four years and the production of telecom equipment in the country has gone up from Rs 1,770 crore during 1989-90 to Rs 2,630 crore in 1990-91, Rs 3,060 crore in 1991-92 and Rs 3,985 crore in 1992-93. During this period a production base in the telecom industry has become wide spread and includes manufacturing units in central public sector, joint sector, state public sector and private sector. The contribution of private sector in the telecom production has steadily increased and today it accounts for about 30-40 percent of total production. The production of telecom equipment has totally been delicensed and has been fully exempted from public sector reservation. Foreign investment and technology is freely permitted. With the opening up of Indian economy large foreign investments have come in the telecom sector and some of the areas where gaps earlier existed in the production infrastructure have since been filled by direct foreign investment. Telecom exports have also been steadily increasing and have gone up from about Rs 55 crore in 1989-90 to Rs 142 crore in 1992-93.

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24 Labour

LABOUR policy in India derives its philosophy and content from the Directive Principles of the Constitution and has been evolving in response to specific needs of the situation to suit requirements of planned economic development and social justice. It has been envisaged that growth of the economy would not only increase production but also absorb the backlog of unemployment and under employment and a substantial proportion of additional labour force. Seventh Plan laid emphasis on harnessing country's abundant human resources and improving their capabilities for development. Objectives of manpower planning are to ensure proper linkage of economic planning with manpower and educational planning so that no plan programme suffers from lack of trained manpower.

REGULATION OF WAGES

Payment of wages is governed by the Payment of Wages Act, 1936 and Minimum Wages Act, 1948, as amended from time to time. The Payment of Wages Act extends to whole of India. The Payment of Wages Act, 1936, applies to persons employed in any factory including establishments declared as factories under the Factory Act, 1948 and in any railway and industrial establishment such as tramway or motor transport service, air transport service, docks, inland vessels, mines, quarries or oilfields, plantations, workshops in which articles are produced and establishments in which any work relating to construction, development or maintenance of buildings, roads, bridges or canals, etc., is being carried on. It applies only to those who are in receipt of wages, average of which falls below Rs 1,600 per month.

Employers cannot withhold wages earned by workers nor can they make any unauthorised deduction. Payment must be made before expiry of specified day after the last day of wage period. Fines can be imposed for only those acts of omission which have been approved by appropriate authority and must not exceed an amount equal to three per cent of wages payable. If payment of wages is delayed or wrongful deductions are made, workers or their trade unions can file a claim. Payment of overtime in scheduled employment is governed by the Minimum Wages Act, 1948.

MINIMUM WAGES ACT

The Minimum Wages Act, 1948, empowers Government to fix minimum wages for employees working in specified employments. It provides for

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review and revision of minimum wages already fixed after suitable intervals not exceeding five years. However, Labour Ministers' Conference in July 1980, recommended that a revision of minimum wages should be made within two years or on a rise of 50 points in consumer price index, whichever is earlier.

The Central Government is the appropriate agency in relation to any scheduled employment carried on by or under the authority of it or in railway administration or in relation to mine, oilfield or major port or any corporation established under the Central Act. State governments are the appropriate agencies' in relation to other scheduled employments. The Central Government is concerned to a limited extent with building and construction activities mostly carried on by Central Public Works Department, Ministry of Defence, etc. and agricultural farms under the Ministries of Defence and Agriculture. Bulk of employment falls in state spheres and state governments are required to fix/revise wages and ensure their implementation in respect of scheduled employments within their spheres. Enforcement of the Minimum Wages Act in Central sphere is secured through the Central industrial relations machinery.

WORKING JOURNALISTS ACT

The Working Journalists and other Newspaper Employees (Conditions of Service) and Miscellaneous Provisions Act, 1955 regulates conditions of service of working journalists and other persons employed in newspaper establishments. In 1985, the Government had set up two wage boards–one for working journalists and other for non-journalist employees under the Chairmanship of Justice Shri U.N. Bhachawat. The two wage boards submitted a final combined report on 30 May 1989. The Government issued notification on 31 August 1989 accepting the recommendations of the Bachawat Wage Boards regarding pay scales. Another notification regarding House Rent Allowance and Compensatory City Allowance was issued by the Government on 22 January 1990. From time to time, the Central Government has been impressing upon the state governments/union territory administrations for speedy implementation of the recommendations of Bhachawat Wage Boards and advising them to establish tripartite committee/special cells at state level in this regard. The position of implementation by the newspaper establishments as on 1 January 1993 is given in table 24.1.

PAYMENT OF BONUS ACT, 1965

The Payment of Bonus Act, 1965 provides for a minimum bonus of 8.33 per cent and the limit of salary for eligibility is Rs 2,500 per month. The payment is subject to stipulation that the bonus in respect of employees drawing wages or salary between Rs 1,600 and Rs 2,500 per mensem would be calculated as if their salary or wage is Rs 1,600 per month. A number of representations have been received for enhancing the above ceilings. No final view has been taken so far on the issue.

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TABLE 24.1 IMPLEMENTATION OF BHACHAWAT WAGE BOARDS RECOMMENDATIONS

AS ON 1 JANUARY 1993

State/Union Territory	No. of Newspaper Establishments	Which have Implemented			Tripartite Committee Formed	Implementation Cell Formed
		Fully	Partially	Not Implemented		
Madhya Pradesh	81	52	11	18	1	-
Kerala	56	43	-	13	1	-
Bihar	144	9	2	133	1	-
Arunachal Pradesh	2	1	-	1	-	-
Tamil Nadu	104	80	1	23	-	-
Rajasthan	35	35	-	-	-	1
Manipur	80	-	5	75	-	-
Gujarat	22	20	1	1	-	-
Goa	8	7	-	1	-	-
Haryana	7	7	-	-	-	-
Andhra Pradesh	3	15	5	11	1	-
Assam	77	11	-	66	1	-
Karnataka	7	6	-	1	-	-
Maharashtra	167	109	1	57	-	1
Punjab	13	9	-	4	-	1
Uttar Pradesh	169	121	-	48	1	-
West Bengal	420	9	6	405	1	-
Orissa	27	11	-	16	1	-
Tripura	7	-	-	7	-	-
Sikkim	6	-	-	6	-	-
Delhi	92	49	3	40	-	1
Chandigarh	2	2	-	-	-	-
Pondicherry	2	2	-	-	-	-
Himachal Pradesh	9	9	-	-	-	-
Meghalaya	1	-	-	1	-	-
Total	1,569	607	35	927	8	4

Note:-1. There is no newspaper establishment in the following union territories : Andaman & Nicobar Islands; (2) Dadar & Nagar Haveli, (3) Lakshadweep; (4) Daman & Diu.

2. Information is nil in respect of Nagaland and Mizoram.

NATIONAL LABOUR INSTITUTE

National Labour Institute is an autonomous body under the Ministry of Labour, Government of India. It is engaged in research pertaining to labour and training of labour administrators, trade unions, public sector managers and other government functionaries concerned with labour.

The Institute has a 54 member General Council comprising representatives of the Central and state governments, organizations of employers and workers, Members of Parliament and distinguished persons who have made noteworthy contribution in the field of labour. The Union Minister of Labour is the President of the Institute. The General Council elects the Executive Council which is responsible for the management of affairs of

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the Institute. The Chairman of the Executive Council is appointed by the Central Government, the present Labour Secretary of the Government of India is the Chairman. Director is the principal executive officer of the Institute.

The Institute endeavours to promote better understanding and appreciation of labour problems in organised, unorganised and rural sectors of economy through research studies, education and training programmes, consultancy and publications. Based on action research and current information of labour problems, the Institute conducts education and training programmes for organisers of rural workers, trade union leaders, labour administrators and managers. During the period January to December 1992, 19 training programmes were organised which were attended by 484 participants. The Institute undertakes long and short-term research studies in different priority areas so as to help in appropriate policy formulation in labour-related matters. It also provides consultancy services to public and private sector enterprises. Besides occasional papers of research and monographs, the Institute publishes a monthly journal *Awards Digest* containing gists of labour courts, High Courts and Supreme Court decisions relating to labour matters.

CENTRAL BOARD FOR WORKERS EDUCATION

The Central Board for Workers Education is a tripartite society established in 1958. It aims at: (i) strengthening among all sections of workers a sense of patriotism, national integrity, secularism and pride in being an Indian; (ii) equipping them for their intelligent participation in social and economic development; (iii) developing among them the nation-first approach; (iv) instilling in them greater understanding of the problems of their social and economic environment, their rights and obligations as citizens and as workers in industry and their responsibilities towards family members. The Board also aims at developing responsible and positive leadership from among workers themselves who can take up the responsibilities of running their unions.

The scheme of workers education operates at three levels: (a) national (b) regional (c) unit/village level. It covers workers from the organised and unorganised sectors, rural workers and those belonging to the weaker sections of society. An apex national level training institute known as the Indian Institute of Workers Education at Bombay, organises national level training programmes for Board's officers and nominees of the central trade union organisations and industrial federations. There are 48 regional and 16 sub-regional centres conducting workers education at regional and unit/village levels. Selected workers are trained at these centres as worker-teachers in full-time continuous training courses of three months duration. These trainees sponsored by the trade unions are released by employers with full wages and treated as on duty.

The syllabus covers trade union formation and its development and

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functions. In addition, a good deal of coverage is given to duty aspect, national outlook and community interest. A fair knowledge of the history of our country, particularly the freedom struggle, saga of sacrifices and service in the cause of freedom and understanding of economic perspectives of the country are also included. These trained worker teachers conduct three months part time course for workers at unit levels, besides a three-week full time course in those units which release workers for training. The Board has also evolved several specialised short term programmes to meet growing needs of workers in public, private, cooperative and rural sectors. Joint courses for representatives of management and workers are also organised. Special courses are conducted on leadership development, productivity education and participative management for workers and management personnel.

Tailor-made programmes are designed to meet educational needs of workers from the weaker sections. The Board launched several programmes for rural workers on selective basis, under a 'pilot project 1977-78'. These have now become a regular feature. The cardinal objective of rural workers programme is to help them understand and solve their problems through self-help and develop their own organisations. The Board had launched a massive drive to disseminate amongst the rural workers information about various benefits available to them under different welfare, loan and subsidy schemes. For this, simple, lucid and brief material in the form of folders are prepared in different languages. It has also started training workers from small scale industries/unorganised sectors from September 1980. Functional Adult Literacy is being promoted among workers particularly those in mines and plantations. The Board publishes a quarterly journal *'Workers Education'* in English with standard articles on trade unionism, industrial relations, labour laws and economics, tools and techniques and methods of workers education, etc. Regional centres bring out house journals in regional languages. The Board has published textual booklets and visual aids for use in training courses. The Board also gives grants-in-aid to trade unions, educational institutions, etc., to help them develop their own workers education programmes.

CONTRACT LABOUR

The Contract Labour (Regulation and Abolition)Act,1970 which became applicable to whole of India in February 1971 provides for regulation of employment of contract labour in certain establishments and for its abolition in certain circumstances. It fixes responsibility on the principal employer for payment of wages in case of defaults. The Government has set up eight tripartite committees to advise on abolition of contract labour in certain employments.

CHILD LABOUR

Legislative provisions have been made in various laws to protect children from

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exploitation at work and to improve their working conditions. In addition, the Child Labour (Prohibition and Regulation) Act, 1986 prohibits employment of children in certain hazardous occupations and processes and regulate their employment in some other areas.

A National Policy on Child Labour has been formulated in 1987 which apart from enforcement of legal provisions envisages focussing on general development programmes for the benefit of child labour and project-based plan of action in areas of high concentration of child labour. National Child Labour Projects have been set up in nine such areas. Financial assistance to voluntary organisations is provided for taking up action-oriented projects. In addition, with ILO's assistance, two projects for tackling the problems of child labour within the framework of national policy, namely International Programme on the Elimination of Child Labour (IPEC) and Child Labour Action and Support Programme (CLASP) have also been taken up.

CHILD LABOUR CELL IN THE NATIONAL LABOUR INSTITUTE

A Child Labour Cell has been established at National Labour Institute in September 1990 with the support of Ministry of Labour and UNICEF. For the first three years UNICEF will provide the funds and after this it will become a part of the National Labour Institute. The Child Labour Cell has been established with the following objectives:(i)to document and bring out published and unpublished research studies on situations and conditions of children working in various industries and regions of India; (ii) to develop audio-visual, video, printed communication materials for public education and training of various officials concerned with working children; (iii)to review the existing laws and the enforcement machinery concerned with child labour; (iv) to support and strengthen the public awareness and education through workshops, conferences, symposia with involvement of experts, activists, planners, administrators and non-government organisations (NGOs) working in the area of chid labour;(v) to develop national and international network among various institutions, voluntary agencies, university departments and ministries on the subject of child labour; (vi) to impart training to officials and NGOs working in the area of child labour and (vii) to promote better understanding on the subject by offering facilities for research and training through short-term fellowships, action-research projects, etc.

The Cell has taken up publication of reports/studies on street children in selected cities; prepared summaries of child labour in various industries; published select bibliography on child labour; taken up the work of documentation on child labour; started research project on girl child labour in the match industry of Sivakasi; taken up evaluation of non-government organisation projects on child/women labour funded by the Ministry of Labour and conducted seminars on various aspects of child labour. The Cell conducted two workshops on child labour, one in Tamil Nadu and the other in Uttar Pradesh. These workshops aimed at focussing the

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problems of child labour in the state concerned and finalising action programmes with a view to deal more effectively with the problems.

EQUAL REMUNERATION FOR MEN AND WOMEN WORKERS

The Equal Remuneration Act, 1976 provides for payment of equal remuneration to men and women workers for "the same work or work of similar nature" and for prevention of discrimination against women not only in matters of recruitment but also in relation to conditions of service subsequent to recruitment, such as promotions, training or transfer. Provisions of the Act have been extended to all employments. The Act provides for setting up of advisory committees by the appropriate Government on increasing employment opportunities for women. Such committees have already been set up under the Central Government as well as in most states and union territories. An enforcement machinery has been set up at Central and state level under the Act. The following four social welfare organisations have also been recognised under the Equal Remuneration Act, 1976 for the purpose of filing complaints in the court against employers for violation of the provisions of the Act: (i) The Centre for Women's Development Studies, New Delhi, (ii) The Self-Employed Women's Association, Ahmadabad, (iii) The Working Women's Forum (INDIA), Madras and (iv) The Institute of Social Studies Trust, New Delhi. Some state governments have also recognised certain voluntary organisations under the Act for the same purpose in the state sphere. Under the Act, any person aggrieved by the offence can also file complaint in the court.

SAFETY, HEALTH AND WELFARE OF WORKERS IN FACTORIES

The Factories Act, 1948 is the principal legislation for regulating various aspects relating to safety, health and welfare of workers employed in factories. This Act is a Central enactment which aims at protecting workers employed in factories from industrial and occupational hazards. State governments and union territory administrations frame rules under the Act and enforce provisions of the Act and rules through their factory inspectorates. The Directorate General, Factory Advice Service and Labour Institute, Bombay, which is an attached office of the Ministry of Labour renders technical advice to states/union territories in regard to administration and enforcement of the Factories Act. The Directorate General also organises annual conferences of chief inspectors of factories of states/union territories to review the position regarding implementation and enforcement of the Act.

The Act prescribes a 48 hour week for adult worker and forbids employment of children under 14 years of age in any factory. Minimum standards of lighting, ventilation, safety and welfare services which employers must provide in their factories have also been laid down. Factories employing over 30 women workers are required to provide a creche for their children. Shelters, rest rooms and lunch rooms are required to be provided by factories employing over 150 workers. Factories with more than 250 workers

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have to provide canteens for their workers. Factories employing 500 workers or more have to appoint welfare officers. The Factories Act was amended in the year 1987 in order to impose a general duty on occupiers to ensure health and safety of workers and on designers, manufacturers, importers and suppliers to ensure that articles designed, manufactured, etc., are without risk to health and safety of workers. A new chapter for regulating safety and health aspect in hazardous process industries was incorporated in the Act.

An International Labour Organisation – aided project on "Establishment and Initial Operation of a Major Accident Hazards Control System" executed by the Ministry of Labour through the DGFASLI, Bombay concluded on 31 December 1990. Under this project, a multi-disciplinary major accident hazards control advisory cells in the three regional labour institutes were established. To enable the personnel of the above division and the cells to perform their specialist roles effectively, their capabilities were developed through various means such as in-country training seminars/programmes, fellowships abroad, attachment with the experts and hands-on-experience of investigation of accidents involving hazardous chemicals and inspection of chemical plants jointly with the factory inspectorates, walk through surveys, study and review of on-site and off-site emergency plans documents prepared by the managements of major accident hazards installations and district emergency authorities etc. The Division and the cells are fully operational and are functioning as the national and regional resources centres on major accident hazards control. Constant efforts are made by the personnel to keep themselves abreast of the latest information and development in the field.

A USAID project on industrial safety and health development (ISHD) is being executed with a view to strengthen communication functions of DGFASLI in occupational safety and health, data base and the capabilities for conducting safety audit.

SAFETY IN PORTS AND DOCKS

Provisions relating to safety, health and welfare of workers employed in docks are contained in the Dock Workers (Safety, Health and Welfare) Act, 1986 and rules and regulations framed thereunder. The Act came into force on 15 April 1987. Enforcement of this Act in all the major ports is the responsibility of the Ministry of Labour and this responsibility is discharged through the Directorate General, Factories Advice Services and Labour Institutes, Bombay.

The DGFASLI being the Chief Inspector of Docks, is also entrusted with the responsibility of enforcing in major ports the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 framed under the Environment (Protection) Act, 1986.

SAFETY IN MINES

Provisions for safety, health and welfare of workers employed in mines are

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contained in the Mines Act, 1952 and rules and regulations framed thereunder. These provisions are enforced by the Ministry of Labour through the Directorate General of Mines Safety. The main functions of the Directorate General are: inspection of mines, investigation of all fatal accidents and also certain serious accidents depending upon gravity of the situations; grant of statutory permissions, exemptions and relaxations in respect of various mining operations; approval of mines safety equipment, appliances and material to conduct to examinations for grant of statutory competency certificates, safety promotional incentives including organisation of national awards and national safety conferences etc.

NATIONAL SAFETY COUNCIL

National Safety Council was set up in 1966 to promote safety consciousness among workers to prevent accidents, minimise dangers and mitigate human suffering, arrange programmes, lectures and conferences on safety, conducts educational campaigns to arouse consciousness among employers and workers and collect educational and information data, etc. National Safety Day is celebrated on 4 March every year to mark the foundation day of the National Safety Council.

PRIME MINISTER'S SHRAM AWARDS

The Government has introduced a scheme entitled "Prime Minister's Shram Awards". These awards are given to workmen of the departmental undertakings and the public sector undertakings of the Central Government and state governments in recognition of their outstanding contribution towards production and for showing exemplary zeal and enthusiasm in discharge of their duties. The awards, in order of precedence are: *Shram Ratna, Shram Bhushan, Shram Vir/Shram Devi* and the recognition consists of a *Sanad* and a cash award of Rs one lakh, Rs 50,000, Rs 30,000 and Rs 20,000 respectively.

NATIONAL SAFETY AWARDS(MINES)

National Safety Awards for mines were instituted in 1983. The scheme is designated to give recognition at national level for outstanding safety performance of mines which come within the purview of the Mines Act, 1952. There are 28 awards–14 winners and 14 runners-up which are given to the management.

NATIONAL SAFETY AWARDS

To give recognition to good safety performance on the part of the industrial undertakings and to stimulate and maintain the interest of both management and workers in accident prevention programmes, the Government instituted in 1965 the National Safety Awards. The scheme is applicable to factories and docks.

VISHWAKARMA AWARDS

Shram Vir Awards which are now known as *Vishwakarma Puraskar* were in-

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stituted in 1965. These are meant for workers of factories, mines, plantations and docks and are given to them in recognition of their meritorious performance which leads to high productivity or economy or efficiency.

EMIGRATION

The Emigration Act, 1983, which came into force with effect from 30 December 1983, regulates emigration of citizens of India for employment in other countries on contractual basis and seeks to ensure welfare and safeguard the interest of workers. As on 30 November 1992, number of Indian workers who had gone abroad for employment, in terms of the provisions of the Emigration Act 1983, was about 3.80 lakh as compared to 2.00 lakh in 1991. Under the provisions of the Act, an employer can recruit any citizen of India for employment in any country or place outside India either through a recruiting agent competent under the Act to make such recruitment or directly in accordance with a valid permit issued by the Central Government under the Act. The competent authorities to grant permit for deployment of Indians abroad are Protector General of Emigrants (PGE) and Heads of Indian Missions abroad. The Act also provides that anyone intending to recruit Indians for employment abroad can do so after obtaining a Registration Certificate from the PGE under the provisions of the Act.

Certain categories of persons are not required to obtain emigration clearance for seeking employment abroad. They are entitled to get the Stamp of 'Emigration Check Not Required' (ECNR) on their passports from the passport offices by showing proof of their eligibility. Such individuals are: (i) persons going abroad in managerial capacity in hotels, restaurants, tea-houses or other places of public resort, etc., possessing specialised degrees in these fields; (ii) all gazetted government servants; (iii) all income-tax payers (including agricultural income-tax payers) in respect of their individual capacity. Proof of assessment to income-tax and actual payment of inome-tax for last three years (not merely payment of advance tax) (iv) all professional degree holders, such as doctors holding MBBS degree or Degrees in Ayurveda or Homeopathy, accredited journalists, engineers, chartered accountants, cost accountants, lecturers, teachers; scientists, advocates, etc. (v) spouses and dependent children of category of persons listed from (ii) to (iv); (vi) all persons who have been staying abroad for more than three years (the period of three years could be either in one stretch or broken) and spouse, and children of such persons; (vii) seamen in possession of CDC and sea cadets; (viii) all diplomatic/official passports holders; (ix) dependent children of parents whose passports are classified as ECNR, below 24; (x) persons holding permanent immigration visas such as in UK, USA and Australia; (xi) Persons holding graduation or higher degrees; (xii) Persons holding diplomas from recognised institutions like polytechnics; (xiii) nurses possessing qualifications recognised under the Indian Nursing Council Act, 1947; (xiv) all persons above the age of 60 years; (xv) all visitors to Pakistan and Bangladesh; (xvi) all persons going to

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any country in Europe or North America and (xvii) persons possessing certificates of vocational training from government recognised institutions.

The pilgrims going for *Haj* and *Umrah* in Saudi Arabia and those pilgrims travelling with the declared purpose of performing *'Ziarat'* to Saudi Arabia, Syria, Iran, Iraq and Jordan have been exempted from the requirement of obtaining suspension from 'Emigration Check Requirement' from Protectors of Emigrants/passport offices with effect from 12 May 1992 and 8 January 1993 respectively.

CODE OF DISCIPLINE

The Code of Discipline was evolved at the Indian Labour Conference in 1958 requiring employers and workers to utilise the existing machinery for the settlement of disputes. It was accepted by all the Central organisations of employers, workers and several others. Under the Code of Discipline the implementation organisations assist in settling the disputes pertaining to Central or state affairs. The Central organisations of employers, workers and public sector undertakings excluding the All India Trade Union Congress (AITUC) in this context has set up committees or cells for screening cases.

GRIEVANCE PROCEDURE

Under the Code of Discipline the managements have to establish a procedure to ensure full investigation of disputes to help in their settlement. Central industrial relations machinery persuades the managements to set up grievance procedure in undertakings falling in Central sphere.

SCREENING PROCEDURE

A screening procedure has been evolved to check prolonged litigation by the public sector undertakings in filing appeals in industrial dispute cases on which an award or a judgment has been given by an Industrial Tribunal or a Court.Under this procedure, only after obtaining the concurrence of the concerned administrative Ministry and the Law Ministry on the need for filing an appeal by the public sector undertakings on an award of judgement of the Labour Court/Tribunal, High Court, etc., the case is referred to the Labour Ministry. In the event, the Labour Ministry and the concerned administrative Ministry do not agree, the matter is placed before the committee of economic secretaries.

LAYOFF, RETRENCHMENT AND CLOSURES

The layoffs, retrenchments and closures are regulated under the provisions of the Industrial Disputes Act, 1947. The Government have taken steps to further regulate layoffs, retrenchments and closures through the Industrial Disputes (Amendment) Acts of 1982 and 1984. Accordingly, under the Act, any worker who has completed not less than one year of continuous service is entitled for a minimum amount of compensation for retrenchment/closure.

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BONDED LABOUR

Bonded Labour System stands abolished in the country from 1975 through the Bonded Labour System (Abolition) Act, 1976. The Act envisages release of all bonded labourers, liquidation of their debts and their rehabilitation. Incidence of bonded labour system has been reported from 12 states *viz.*, Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra,Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh.

Under the Bonded Labour System (Abolition) Act, 1976 identification and release of bonded labourers and rehabilitation of freed bonded labourer is the direct responsibility of the state governments concerned. For the purpose of implementing the provisions of the Act, state government may confer necessary powers on the District Magistrate. With a view to supplementing efforts of state governments a Centrally-sponsored scheme has been in existence since 1978-79 under which state governments are provided central financial assistance for rehabilitation of released bonded labourers. The scheme envisages provision of rehabilitation grant upto a ceiling limit of Rs 6,250 per bonded labourer, half of which is given as Central share. The pattern of assistance under this scheme can be either land based, non-land based or skill/craft based. A sum of Rs 3,518 lakh has been released under this scheme since 1978-79 till 12 February 1993.

TRAINING

In an endeavour to build up the career of young persons in their adolescence, Directorate General of Employment and Training has evolved various training programmes. These are formulated within the national framework as far as possible and also in collaboration with foreign countries.

CRAFTSMEN TRAINING

Industrial training institutes were set up all over the country to impart skills in 40 engineering and 22 non-engneering trades to youngmen and women in the age group of 14-25. The duration of the courses varies from one to two years for engineering trades but is one year for all non-engineering trades. Educational qualification for admission in most of the trades is 8th standard to 12th standard depending upon the trades. Besides these 62 trades, some state governments and union territories have introduced training in additional trades to meet requirements of new industries established in their areas under their state councils for vocational training.

CRAFTS INSTRUCTORS TRAINING

Six central training institutes were established at Bombay, Calcutta, Hyderabad, Kanpur, Ludhiana and Madras to train craft instructors required by the industrial training institutes. Out of these six institutes, except the one located at Madras, other five had been upgraded as Advanced Training Institutes (ATI) during 1982. The six institutes with an admission capacity of

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1,114 impart training in a number of trades. Facilities for training of instructors have been provided in the chemical group of trades at ATI Bombay, in printing group of trades at ATI Kanpur and in farm mechanic trades at ATI Ludhiana. A model training institute is attached to each of these institutes which provides practice teaching to trainee instructors.

ADVANCED VOCATIONAL TRAINING SCHEME

Advanced Vocational Training Scheme was launched in October 1977 for training of highly skilled workers and technicians in a variety of advanced and sophisticated skills not available from other vocational training programmes. The scheme was introduced in six advanced training institutes for instructors located at Bombay, Calcutta, Hyderabad, Kanpur, Ludhiana and Madras and 16 selected industrial training institutes under 15 state governments. These institutes were modernised to conduct various advanced courses under the scheme. About 10,000 workers/technicians are trained every year.

FOREMEN TRAINING/SUPERVISORY TRAINING

An institute to train foremen was established in Bangalore in 1971. It trains existing and potential shop foremen and supervisors in technical and managerial skills and technicians from industry in advanced technical skills. To meet the increasing demand for trained foremen the Government established the second Foremen Training Institute at Jamshedpur in 1982.

APPRENTICESHIP TRAINING SCHEME

The Apprenticeship Act, 1961 makes it obligatory for employers in specified industries to engage apprentices. Training consists of basic training followed by on-the-job or shop floor training in accordance with standards prescribed by Government in consultation with Central Apprenticeship Council. So far, 218 categories of industries and 128 trades have been brought under the Act. The Apprenticeship (Amendment) Act 1973 provides for reservation of seats for scheduled caste and scheduled tribe candidates as well as for improving employment potential of engineering graduates and diploma holders.

PART TIME TRAINING TO INDUSTRIAL WORKERS

The scheme for imparting part time training was introduced in 1958 with the objective to improve knowledge and skill of industrial workers who did not have benefit of systematic training in institutes. Under the scheme, industrial workers irrespective of their age but possessing two year workshop experience and sponsored by their respective employers are eligible for admission. Courses of one and a half years are conducted in the evenings.

VOCATIONAL TRAINING AND RESEARCH

Central Staff Training and Research Institute was set up in Calcutta in 1968 for training, research and development of training aids. The Institute con-

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ducts training programmes for officers and staff of Central and state governments as well as from industry who control, regulate and direct training programmes. It also carries out research in vocational training aspects, prepares training aids and advises the industry and institute on training and development problems.

WOMEN VOCATIONAL TRAINING PROGRAMME

At present vocational training facilities for women are available through a network of 355 ITIs, wings exclusively for girls with seating capacity of about 25,000 besides general ITIs under the state sector. Around 100 new Women ITIs/Wings are being set up and new trades being introduced in 64 existing ITIs/Wings in the Eighth Plan with the assistance of World Bank. Out of four more Regional Vocational Training Institutes (RVTIs) to be set up during Eighth Plan with World Bank assistance, one RVTI has been set up at Indore which has started functioning and one each at Allahabad and Vadodara has also been sanctioned.

EMPLOYMENT

Employment in the organised sector *i.e.* in all public sector undertakings and non-agricultural establishments employing ten or more persons in private sector, increased from 259.9 lakh in March 1989 to 263.19 lakh (provisional) in March 1990, an increases of 1.3 per cent. The increase in public sector and private sector employment during 1989-90 was 1.1 per cent and 1.6 per cent respectively. Employment is a thrust area of the Eighth Five Year Plan (1992-97). The Eighth Plan Document accords priority to the objective of generation of adequate employment to achieve near full employment level by the turn of the century. The envisaged GDP growth rate of 5.6 per cent during the Eighth Plan would result in an employment growth of around 2.6 to 2.8 per cent per annum or an average of about eighty to ninety lakh additional employment opportunities per year.

The Plan emphasises the need for a high rate of economic growth, combined with faster growth of sectors, sub-sectors and areas which have relatively high employment potential for enhancing the pace of employment generation. Geographically and crop-wise diversified agricultural growth, development of waste land and forestry, development of rural non-farm sector and rural infrastructure, faster growth of small and decentralised manufacturing and expansion of housing, are the basic elements of the employment oriented growth strategy envisaged in the Plan.

NATIONAL EMPLOYMENT SERVICE

National Employment Service (NES) as on 31 December 1992 comprised 777 employment exchanges and 83 university employment information and guidance bureaux (UEIGBX). The exchanges assist all employment seekers including special groups like handicapped, ex-servicemen, scheduled castes

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and scheduled tribes, women, etc., through placement against jobs notified by employers. NES also carries out other functions such as vocational guidance and employment counselling, collection and dissemination of employment market information and conducts studies in the field of employment and occupational research with a view to generating data for framing employment and manpower policies. Programme of computerisation of exchanges is continuing to improve their working.

Under the Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959, it is obligatory for all establishments in the public sector and such of those non-agricultural establishments in the private sector employing 25 or more workers, to notify their vacancies (with certain exemptions) to employment exchanges and supply periodic information as prescribed in the Act and in the rules made thereunder. Table 24.2 gives figures relating to activities of employment exchanges.

ADMINISTRATION

The day-to-day administrative control over employment exchanges was transferred to the state governments in November 1956. From April 1969 states were also made financially responsible for manpower and employment schemes. The role of the Central Government is limited to policy making, coordination of procedures and standards and development of various programmes on an all-India basis and training.

TABLE 24.2 ACTIVITIES OF EMPLOYMENT EXCHANGES

Year	Exchanges (including UEIGBX)	Registrations (Thousand)	Applicants placed in employment (Thousand)	Applicants on the Live Register (End of the year) (Thousand)	Vacancies Notified (Thousand)
1956	143	1,670.0	189.9	758.5	296.6
1971	437	5,129.9	507.0	5,099.9	813.6
1976	517	5,619.4	496.8	9,784.3	815.6
1981	663	6,276.9	504.1	17,838.1	896.8
1982	692	5,862.9	473.4	19,753.0	819.9
1983	726	6,755.8	485.9	21,953.3	826.0
1984	745	6,219.0	407.3	23,546.8	707.8
1985	800	5,821.5	388.5	26,269.9	674.7
1986	821	5,535.4	351.3	30,131.2	623.4
1987	835	6,011.7	334.4	30,247.3	600.9
1988	840	5,963.2	328.5	30,050.2	543.3
1989	849	6,575.8	289.2	32,776.2	600.2
1990	851	6,540.6	264.5	34,631.8	490.9
1991	854	6,235.9	253.0	36,299.7	458.6
1992	860	5,300.6	238.7	36,758.4	419.6

VOCATIONAL GUIDANCE

Vocational guidance and employment counselling services are provided to

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youth (applicants without any work experience) and adults (with specific work experience). Such units functioned in 314 employment exchanges in 1992. In addition, employment information and guidance bureaux are functioning in 83 universities. These units assist applicants and youth in planning their career. A special scheme operates in 28 selected districts as a pilot basis to motivate and guide job seekers to take up self-employment.

SPECIAL EXCHANGES FOR PHYSICALLY HANDICAPPED

There are 23 special exchanges for physically handicapped. They are functioning at Bombay, Delhi, Madras, Hyderabad, Calcutta, Ahmadabad, Bangalore, Ludhiana, Kanpur, Thiruvananthapuram, Jabalpur , Patna, Chandigarh, Jaipur, Bhubaneswar, Shimla, Guwahati, Agartala, Rajkot, Surat, Vadodara, Imphal and Visakhapatnam. Seventeen vocational rehabilitation centres for the handicapped are functioning at Ahamadabad, Agartala, Bangalore, Bombay, Calcutta, Delhi, Hyderabad, Jabalpur, Kanpur, Ludhiana, Madras, Thiruvananthapuram, Jaipur, Vadodara, Patna, Guwahati and Bhubaneswar. These Centres provide a comprehensive package of rehabilitation services to the handicapped. Centres at Patna and Vadodara have been set up exclusively to rehabilitate handicapped women.

SC/ST JOB SEEKERS

Twenty coaching-cum-guidance centres for scheduled castes and scheduled tribes are functioning at Delhi, Madras, Kanpur, Jaipur, Hyderabad, Thiruvananthapuram, Surat, Jabalpur, Ranchi, Calcutta, Aizawl, Bangalore, Hissar, Rourkela, Imphal, Nagpur, Mandi, Guwahati, Jowai and Kohima which provide confidence building training to the job seekers.

WORKING CONDITIONS AND WELFARE

To provide housing, medical, recreational, educational, family welfare and other welfare facilities on a planned basis, statutory welfare funds have been created for the benefit of workers in mica, iron ore, manganese ore, chrome ore, limestone, dolomite mines and in *beedi* and cine industry.

Welfare funds have been established under the following statutes; (i) The Mica Mines Labour Welfare Fund Act, 1946; (ii) The Limestone and Dolomite Mines Labour Welfare Fund Act, 1972; (iii) The Iron Ore Mines, Manganese Ore Mines and Chrome Ore Mines Labour Welfare Fund Act, 1976; (iv) The *Beedi* Workers Welfare Fund Act, 1976 and (v) The Cine Workers Welfare Fund Act, 1981. Finance for funds are raised through the levy of cess, an *advalorem cess* as customs duty on mica exports, a cess as a duty of customs export of iron ore, manganese ore and chrome ore and duty of excise on internal consumption of the said ore and limestone and dolomite is levied. Welfare fund for *beedi* workers is being financed by levy of cess on manufactured *beedis* and for cine on feature films. A group insurance scheme for *beedi* workers has been introduced w.e.f I April 1992

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to give some social security measures to those *beedi* workers who are not covered under Employees Provident Fund and other social security benefits.

Parliament had passed three Acts in 1981 for amelioration of the lot of cine-workers. These are: (i) the Cine-Workers Welfare Cess Act, (ii) the Cine-Workers and Cinema Theatre Workers (Regulation of Employment) Act and (iii) the Cine-Workers Welfare Fund Act. All of these came into force in 1984 when the Rules under the respective Acts were framed and notified.

SOCIAL SECURITY

WORKMEN'S COMPENSATION ACT, 1923

A begining was made in social security with the passing of the Workmen's Compensation Act in 1923. The Act provides for payment of compensation to workmen and their dependents in case of injury and accident (including certain occupational diseases) arising out of and in the course of employment and resulting in disablement or death. The Act applies to railway servants and persons employed in any such capacity as is specified in Schedule II of the Act. Schedule II includes persons employed in factories, mines, plantations, mechanically propelled vehicles, construction works and certain other hazardous occupations. Minimum rate of compensation for permanent disablement and death have been fixed at Rs 24,000 and Rs 20,000 respectively. Maximum amount for death and permanent total disablement can go upto Rs 90,000 and Rs 1,14,000 respectively depending on wages of workmen.

MATERNITY BENEFITS

The Maternity Benefit Act, 1961, regulates employment of women in certain establishments for a certain period before and after child birth and provides for maternity and other benefits. The Act applies to mines, factories, circus industry, plantation and shops and establishments employing ten or more persons, except employees covered under the Employees State Insurance Act, 1948. It can be extended to other establishments by the state governments. There is no wage limit for coverage under the Act.

GRATUITY SCHEME

The Payment of Gratuity Act, 1972, is applicable to factories, mines, oil fields, plantations, ports, railways, motor transport undertakings, companies, shops and other establishments. Coverage under the Act is restricted to employees drawing wages not exceeding Rs 3,500 per month. The Act provides for payment of gratuity at the rate of 15 days wages for each completed year of service subject to a maximum of Rs 50,000. In the case of seasonal establishment, gratuity is payable at the rate of seven days wages for each season. The Act does not affect the right of an employee to receive better terms of gratuity under any award or agreement or contract with the employer.

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EMPLOYEES STATE INSURANCE SCHEME

The Employees State Insurance Act is applicable, in the first instance, to non-seasonal factories using power and employing 10 or more persons and non-power using factories employing 20 or more persons. Under the enabling provisions contained in the Act, the Act is being extended by state governments to new classes of establishments namely, shops, hotels, restaurants, cinemas including preview theatres, road motor transport undertakings and newspaper establishments employing 20 or more persons. It covers employees drawing wages not exceeding Rs 3,000 with effect from 1 April 1992.

The Act provides medical care in kind and cash benefits in the contingency of sickness, maternity, employment injury and pension for dependents on the death of worker because of implement injury. Full medical care including hospitalisation is also being progressively made available to members of family of the insured persons. As on 31 January 1993 there were 115 ESI hospitals and 42 annexes with 20,767 beds and 1,334 dispensaries under the scheme. The total number of employees covered was about 69.51 lakh.

EMPLOYEES PROVIDENT FUND

Retirement benefits in the form of provident fund, family pension and deposit-linked insurance are available to employees under the Employees Provident Fund and Miscellaneous Provisions Act, 1952. As on 31 December 1992 the Act covered 177 industries/classes of establishments with about 1.67 crore subscribers. Coverage under the Act is presently restricted to establishments employing 20 or more persons. It is further restricted to those drawing wages upto Rs 3,500 per month. Minimum rate of contribution under the Act is 8.33 per cent. However, rate of contribution in respect of 98 industries establishments employing 50 or more persons has been enhanced to 10 per cent from June 1989. Under the Act, employers are required to make a matching contribution.

EMPLOYEES DEPOSIT-LINKED INSURANCE SCHEME

Another important social security measure, Employees Deposit-linked Insurance Scheme, 1976, was introduced for members of the Employees Provident Fund and exempted provident funds with effect from 1 August 1976. On the death of a member, the person entitled to receive provident fund accumulation would be paid an additional amount equal to average balance in provident fund account of the deceased during the preceding twelve months if such an average balance was not below Rs 500 during the said period. Maximum amount of benefit payable under this scheme is Rs 25,000 and the employees do not have to make any contribution to it. This has been effective from March 1990.

FAMILY PENSION

To provide long-term financial security to families of industrial employees in

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the event of their premature death, the Employees Family Pension Scheme was introduced from 1 March 1971, by diverting a portion of employers and employees contribution on the employees provident funds with an additional contribution by the Government. Amount of family pension payable ranges from minimum of Rs 250 to maximum of Rs 1050 per month depending on the period of membership of the fund with effect from 1 April 1992. In additional, family pensioners are entitled to assurance benefit of Rs 5,000 to meet immediate expenses.

WORKERS PARTICIPATION IN MANAGEMENT

The Government reviewed the working of earlier schemes on workers participation which were introduced in October 1975 and January 1977 respectively. In the light of the review and experience gained in the implementation of the scheme, the Government introduced a new and comprehensive scheme of workers participation vide Resolution dated 30 December 1983 in Central public sector undertakings.

A Tripartite Committee constituted under the scheme and comprising representatives of some Central ministries/state governments, major public sector undertakings and central trade union organisations, reviews progress of the scheme from time to time and suggests remedial measures. A monitoring cell had also been created in the Ministry of Labour to assist the Committee.

The schemes relating to participation of workers in management have in the past been non-statutory and not been able to provide an effective frame-work for a meaningful participation of workers in management. A national seminar was, therefore, organised in New Delhi on 8-9 January 1990 to hold a wide debate on the subject. Subsequently, regional seminars were also held in Kanpur, Thiruvananthapuram, Madras, Indore and Bombay. The subject was also discussed in the conference of the state labour ministers held on 20 April 1990 and the Indian Labour Conference 21-22 April 1990. On the basis of the consensus of opinion expressed in these fora, the participation of Workers' in Management Bill, 1990 was formulated and introduced in Rajya Sabha on 30 May 1990. The bill *inter alia,* provide for participation of workers in management at the levels of the shop floor, the establishment and the board of management level in industrial establishments covered under the Industrial Disputes Act, 1947.

TRADE UNIONS ACT

The Trade Unions Act, 1926, provides for registration of trade unions. Any seven or more members of workers may, by subscribing their names to the rules of trade union and otherwise complying with the provision of the Act with respect to registration, apply for the registration of trade union under the Act. It gives protection to registered trade unions in certain cases against civil or criminal action.

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25 Housing

HOUSING is a state subject. The Union Government, however, plays a catalytic role by formulating national level policies with regard to programmes and approaches for effective implementation of the social housing schemes, particularly those belonging to the poorer sections and vulnerable groups. Housing is an integral part of overall policy of improvement of human settlements and economic development.

NATIONAL HOUSING POLICY

India faces a huge housing backlog of 310 lakh units as seen from the growth of slums, inadequate services, rising cost of shelter and speculation and inadequate supply of formal housing. Keeping in line with UN Declaration of "Global Shelter Strategy-2001" policies and programmes pursued by the Central and state governments in the successive Five Year Plans, a National Housing Policy (NHP) has been formulated by the Government of India which was placed before the Parliament in 1992. The policy document fully reflected the strategy under the Eighth Plan. This is now elaborated in terms of Agenda 21 adopted in Earth Summit. The long term goal of the NHP is to eradicate houselessness, to improve the housing conditions of the inadequately housed and to provide a minimum level of basic services and amenities to all. It emphasises new construction and upgradation and housing for rental purposes. It recognises that the magnitude of housing task calls for involvement of various agencies including Government at different levels, cooperatives, the community and the private sector. The policy envisages a major shift in Government's role to act more as a facilitator than as a builder. The needs of vulnerable sections of the society will, however, continue to be attended to by the Government by direct intervention. In a large country like India, the policy will be elaborated in the form of action plans with due regard to local circumstances. It envisages steps to facilitate housing activity of the private sector and community and to encourage within the framework of housing policy and local planning, the voluntary agencies in efforts to upgrade shelter, extend basic services, augment incomes and promote environmental conservation.

During the Eighth Plan, emphasis will be on social housing schemes including those under minimum needs programme in rural areas, strengthened role of Housing and Urban Development Corporation and National Housing Bank, shelter for the homeless and footpath dwellers, institutional development, technology transfer and development of ap-

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propriate building materials, housing information system and housing for industrial workers, working women and artisans.

HOUSING FINANCE

The Eighth Plan public sector outlay for housing is Rs 4,823 crore as against Rs 1,491 crore in Seventh Plan. In addition, it is proposed to expand the supply of individual housing finance from various sources to Rs 25,000 crore over the period 1992-97.

With a view to augment the flow of institutional finance to Housing sector and to promote and regulate housing finance institutions, the National Housing Bank was set up as a subsidiary to RBI in July 1988. The Ministry of Urban Development is closely involved with the various initiatives of the NHB for mobilising resources and channeling funds for various forms of housing activities and infrastructure within the framework of the National Housing Policy. The NBH is operating following schemes: (1) Home Loan Account Schemes: A contractual saving scheme linked to guaranteed loan. As on 31 August 1992, six lakh accounts have been opened in various commercial banks and housing finance institutions and an amount of Rs 184 crore was in deposits; (II) Refinance Scheme for housing by the commercial banks and HFIs: Till 31 August 1992 Rs 1,272 crore had been advanced as refinance to eligible agencies; (III) Land Development and Shelter projects of public/private agencies operated through HUDCO and commercial banks to increase the supply of serviced land and houses, Rs 97 crore had been advanced till 31 August 1992.

Banking sector allocation for housing every year has been to the extent of 1.5 per cent of the incremental deposits with scheduled commercial banks for housing loans, 30 per cent of such loans is channeled to individuals/household sector. Allocation of LIC/GIC loans to state governments for housing schemes has been on an increase year after year. For 1992-93, LIC has allocated loans to the extent of Rs 164.48 crore and GIC has allocated loan of the order of Rs 51.56 crore for social housing scheme in the state. In addition LIC/GIC have agreed to provide loan of Rs 50 crore each to HUDCO for financing housing schemes of disaster affected states of Andhra Pradesh, Tamil Nadu and Karnataka.

Several housing finance companies in the public as well as private sector have been established. The companies are regulated by National Housing Bank as per its guidelines. So far, NHB has granted recognition to 18 HFIs floated by public sector banks and financial institutions, including public sector HUDCO and private sector HDFC, for its refinancing purpose. According to the latest assessment of NHB, there are altogether 53 HFIs/corporations including those in public sector. Steps have been initiated to simplify and hasten the foreclosure of mortgages and to create a secondary market in housing finance. With a view to providing increased flow of funds to housing sector, HUDCO, NHB and HDFC have secured significant lines of credit from external sources like KFW (Germany) and

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USAID and OECF (Japan) etc. A scheme has been announced to encourage through various concessions larger NRI investment in housing and real estate.

TECHNOLOGY IN HOUSING

Building materials account for 65 to 70 per cent of the total cost of construction. The demand of building materials has been continuously rising with the increasing need for housing both in rural and urban areas. Inadequate technology extension facilities, lack of coordination and promotion programmes at the Central and state government levels to support production ventures have been largely responsible for very limited application of these emerging technologies.

In the rural areas the problem is more severe due to decreasing access to traditional materials such as timber, bamboo, thatch which mostly form part of bio-mass. Commercial exploitation of forest resources by various industries has aggravated the situation. A change in policy is, therefore, on the anvil to give due priority to shelter construction through better availability of alternate materials at affordable prices and by minimising commercial exploitation of bio-mass.

In this context the following initiatives have been taken: (a) The Building Materials and Technology Promotion Council has been functioning as a registered Society under the aegies of the Ministry of Urban Development to provide an appropriate platform for technology transfer, application in the shelter sector and large scale commercial production of innovative building materials. The Council has taken a lot of initiatives in utilisation of flyash and other wastes, introduction of new specifications of CPWD and BIS and to increase the entrepreneurs interface with the financial institutions and research agencies. Two flyash plants in Delhi and four plants in Badarpur are being set up; (b) excise concession have been given for building materials produced out of industrial and agricultural wastes, related equipment, prefabricated components etc; (c) for some of the technologies and new materials and components already tested, manufactures on a pilot scale have been identified; (d) a network of building centres has been set up as a Centrally sponsored scheme through HUDCO to train artisans and for the transfer of appropriate technology to rural and urban areas. So far, 291 building centres have been identified, out of which 110 have become functional upto 31 December 1992 and (e) non-governmental organisations (NGOs)/voluntary organisations are increasingly being supported to supplement governmental efforts.

HOUSING SCHEMES

The following urban housing schemes are in operation in the Central and state sector, while Central schemes envisage central subsidy HUDCO loan, the state sector schemes are financed mainly out of the state budgetary support, supplemented, if required by HUDCO loan and loan from other HFIs: (a) social housing scheme for different income groups, operated by the

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state and city level agencies with state budget support and loans from HUDCO, LIC and other financial institutions; (b) shelter upgradation scheme for the urban poor launched by the Centre in November 1989 under the *Nehru Rozgar Yojana* with objectives of shelter improvement and provision of employment for the poor where Rs 1,000 subsidy per household is given by the Government with HUDCO loan for cities with population between one to twenty lakh; (c) Central scheme of footpath dwellers' night shelter–a partially subsidised Central scheme for identified target groups; (d) housing schemes for weavers and *bidi* workers—Central grant scheme of the Ministry of Labour supplemented by HUDCO loan; (e) ownership housing scheme under the Central Government Employees Group Insurance Fund operated with the HUDCO loan; (f) Working Women Condominium Scheme funded by HUDCO for the benefit of single working women; (g) sites and services and slum upgradation scheme operated with the assistance of the World Bank and financial institutions for home improvement; (h) land acquisition development and shelter scheme with NHB refinance and schemes under the state plan; (i) city level infrastructure development scheme funded by HUDCO; (j) environmental improvement of urban slum under minimum need programme–state sector scheme; (k) schemes for house improvement and repair. The Maharashtra Government operates a major scheme of building repairs and reconstruction in Bombay under a statutory scheme; (l) schemes taken up by cooperatives of different income groups as well as SC/ST with the help of apex federations and loans from LIC, HUDCO and scheduled banks; (m) rental housing scheme for employees by the Central and state governments, public sector, autonomous agencies, private enterprises including house building advances on concessional terms and (n) Centrally sponsored schemes of urban basic services for the poor to be implemented in convergence with NRY, EIUS, nutrition and health care programmes. As on 31 March 1993, HUDCO has sanctioned a total number of 9,079 schemes for construction of 43.27 lakh units, upgradation of 9.68 lakh units, development of 3.83 lakh plots and construction of 19.41 lakh basic sanitation units. HUDCO has been a pioneer in financing rural housing programmes since 1977-78. Till 31 March 1993, HUDCO has sanctioned 1,350 rural housing schemes with a project cost of Rs 1,547.56 crore, for which HUDCO has sanctioned loan of Rs 846.78 crore for construction of over 24 lakh dwelling units. HUDCO is also implementing village *abadi* environmental improvement scheme and housing scheme for small and marginal farmers.

HOUSING FOR CENTRAL GOVERNMENT EMPLOYEES

A new organisation named Central Government Employees Welfare Housing Organisation, for providing housing to Central government employees has been set up as a society under the aegis of Ministry of Urban Development. This meets a long felt need of the Central government employees. The organisation has acquired land at Bombay, Lucknow, Chandigarh, Panchkula etc. Housing schemes at Bombay, Calcutta and Madras have been announced. Housing projects at Calcutta and Madras are on turnkey basis.

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LEGAL INITIATIVES

A model rent control law has been formulated with a view to liberalise the rent control regime with due regard to the needs of landlords and tenants, to raise the return on rental housing, exempt new constructions and units with high rent, periodic rent revision and speedy disposal of cases. Similar model laws for regulating apartment ownership and housing cooperatives have been framed as also the regulation of the activities of developers and property agents. It is proposed to rationalise the levy of stamp duty and other fees related to housing and simplify the procedures for building permission. As the private sector is encouraged to invest in the larger provision of housing and infrastructure, they are being induced to develop higher professional standards and ethics through a rating agency. The aim is to create an enabling framework for housing activity by removing constraints specific to each group of public or investors, and reorient public agencies for this purpose.

URBAN LAND (CEILING AND REGULATION) ACT, 1976

The Urban Land (Ceiling and Regulation) Act, 1976 came into force on 17 February 1976. It applies to all states and union territories except Jammu and Kashmir, Kerala, Nagaland, and Sikkim which have not adopted the Act so far. It also excludes Tamil Nadu which had enacted its own law in 1978. The main objectives of the Act are (i) to prevent the concentration of urban land in the hands of a few persons; (ii) to bring about an equitable distribution of existing large urban land holdings; (iii) to regulate the construction of buildings on such land (iv) and to use the excess vacant land to sub-serve the common good. Even though the objectives of the Act have been appreciated, it has been criticised as being harsh, restrictive and posing problems in actual operation. It has also been felt that it has affected the building activities in the country. The state governments from time to time requested for making amendments to the Act to make it more effective and workable.

On the basis of the suggestions received from state governments, experts, leading organisations and the recommendations made by the National Commission on Urabanisation, the Government of India formulated several proposals for making amendments in the various provisions of the Act. These proposals were discussed in the Chief Ministers' Conference held in New Delhi on 7 March 1992. The modified amendment proposals have been prepared but no final decision has been taken so far. The thrust of these proposals is to encourage the housing activities with the involvement of land owners to give protection to genuine agriculturists, keeping a check on speculation of vacant land, facilitating the shifting of industries from non-conforming zone and also the rehabilitation of sick industrial units.

URBAN WATER SUPPLY AND SANITATION

Urban Water Supply and Sanitation is a state subject. Schemes are formulated, implemented, operated and maintained by the state governments union territory administrations. Funds are provided for the purpose under

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the state plans. As per the information available, the coverage of urban water supply and sanitation till December 1991 was 84.9 per cent and 40.6 per cent respectively. The Working Group for the formulation of the Eighth Plan (1992-97) recommended to provide drinking water facilities to cent per cent population and with sewerage and sanitation facilities to 75 per cent of the urban population by the end of the Eighth Plan (1992-97). In order to achieve the objectives the Working Group envisaged an amount of Rs 23,634.56 crore for the Eighth Plan. However, only an outlay of Rs 5,757.28 crore have been provided by the Planning Commission for the Eighth Plan period of which, an outlay of Rs 989.58 crore has been provided for the Annual Plan (1992-93).

Various training programmes have been initiated for human resource development in planning, design, operation, maintenance and management of urban water supply and sanitation schemes. The Government has introduced use of micro-computer for planning and designing of water supply distribution and sewerage systems besides imparting training to public health engineers. Financial assistance was provided to several state agencies dealing in urban water supply and sanitaion sector for procuring micro-computers. The Urban Development Ministry has developed a management information system (MIS) which has been disseminated to state public health engineering departments and water supply and sewerage boards for implementation. The Ministry provides technical advice and accords technical approval for urban water supply and sanitation schemes in order to get loan assistance from LIC, World Bank and other bilateral agencies.

The Ministry being the administrative agency for obtaining loan assistance from the World Bank, has helped in completing six water supply and sewerage projects with World Bank assistance in the states of Maharashtra, Gujarat, Punjab, Rajasthan and Uttar Pradesh. Also, the Ministry is coordinating in respect of on-going World Bank projects in the states of Maharashtra, Kerala, Tamil Nadu and Andhra Pradesh. An integrated scheme of low cost sanitation under Liberation of Scavengers Programme for providing low cost sanitation facilities in the towns having population of less than five lakh (1981 census), on whole-town basis. It is envisaged to cover 500 towns every year and if adequate funds are provided for the implementation of this programme, it is likely that all the towns/cities having population of less than five lakh (1981 census) will be covered by the end of Eighth Plan (1992-97).

URBAN BASIC SERVICES FOR THE POOR

The Centrally sponsored scheme of Urban Basic Services was introduced in 1986 with the assistance of UNICEF for provision of basic social services and physical amenities in urban slums. During 1990-91, the programme was revised and enlarged and came to be known as Urban Basic Services for the Poor (UBSP). The scheme is being implemented concurrently with the scheme of Environmental Improvement of Urban Slums (EIUS) in the state

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sector which provides physical amenities. The UBSP aims at converging the inputs of specialist departments for providing an integrated package of socio-educational services like, immunization, nutrition, health-care, hygiene and sanitation, pre-school learning, functional literacy, non-formal education, community based rehabilitation for physically and mentally impaired, behavioural adjustments for juvenile delinquents and other social deviants and special assistance to children in specially difficult circumstances and their families. As such, the Eighth Plan offers the UBSP infrastructure of neighbourhood and community development societies as the critical convergence point for all specialist departments to achieve their sectoral goals. During the year 1990-91, a sum of Rs 23.63 crore was allocated for the UBSP scheme and in 1991-92 another Rs 21 crore was allocated. During 1992-93, an amount of Rs 13 crore has been provided in the Annual Plan of the Ministry of Urban Development, 16.25 lakh urban poor persons are expected to be covered under UBSP by the end of 1992-93. By the end of Eighth Five Year Plan, the total beneficiaries coverage is expected to be about 70 lakh. Uptill now, 240 towns are in the process of being provided a convergent package of social services under the revised scheme of Urban Basic Services for the Poor.

INTEGRATED DEVELOPMENT OF SMALL AND MEDIUM TOWNS

The scheme of Integrated Development of Small and Medium Towns (IDSMT) was started by the Central Government in 1979-80, to develop small and medium towns by directing increased investment to these towns for improvement of their economic and physical infrastructures and other essential facilities and services. It was also envisaged that this scheme will slow down the growth of the metropolitan cities and will also result in the balanced distribution of urban population by creating sufficient employment opportunities.

Upto 1991-92, towns with a population of one lakh and below were considered for inclusion under IDSMT, preference being given to district headquarter towns followed by sub-divisional towns, *mandi* towns and other important growth centres. In addition, some of the towns having population between one lakh to three lakh which were identified as potential generators of economic momentum by the National Commission of Urbanisation (NCU) were also considered. The selection of towns vested with the state governments/union territories. During the Sixth Plan, Central assistance on matching basis was limited to 50 per cent of the total approved cost of the project or Rs 40 lakh whichever was less. However, during the Seventh Plan, maximum Central assistance was increased from Rs 40 lakh to 46 lakh per town. Besides, Rs 14 lakh for low cost sanitation was also provided to each town. So far, 517 towns have been covered under the IDSMT scheme and Central assistance amounting to Rs 177.03 crore released.

In the Seventh Plan, the IDSMT scheme had broadly served its objectives but it did not have sufficient impact by way of creating infrastructure

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in an integrated manner in the towns. The selection of towns was also dependent upon the project reports being sent by the state governments and was not linked to a proper urbanisation strategy for the state. Budgetary support was inadequate, and on account of investments at a sub-optimal level, the desired objective of reducing migration to the bigger towns was not achieved. Therefore, the guidelines of the IDSMT scheme have been revised. The salient features of the revised guidelines, which will apply to towns to be covered from 1992-93 onwards, include the following: (i) state governments/union territory administrations will prepare urbanisation strategy papers for next 10 years and submit detailed priority lists of towns with justification based on the urbanisation strategy; (ii) the integrated project report of each town shall conform to the urbanisation strategy of the state and the development plan of the town; (iii) Central assistance as a grant will be provided to financially weak local bodies for meeting the cost of preparation of project reports, subject to a ceiling of two per cent of the total project cost or Rs 2 lakh, whichever is less; (iv) besides raising the share of Central Government in budgetary finance from 50 to 60 per cent, support from institutional finance is also envisaged. The revised financing pattern is given below.

(Rs in lakh)

Category of Town	Population	Maximum project cost permissible	Central assistance (Loan)	State share	HUDCO loan other ssources
A	Less than 20,000	100	36	24	40
B	20,000 to 50,000	200	72	48	80
C	50,000 to 1,00,000	500	120	80	300
D	1,00,000 to 3,00,000	1000	180	120	700

NEHRU ROZGAR YOJANA

The Nehru Rozgar Yojana has been designed to provide employment to the urban unemployed and under-employed poor. The employment contemplated is of two types: one relates to the setting up of self-employment ventures and the other type relates to provision of wage employment through the creation of socially and economically useful assets and shelter upgradation programmes in urban areas.

The programme has three schemes: (i) scheme for setting up micro enterprises and providing training and infrastructure support for urban poor beneficiaries. This scheme is operative in all urban settlements; (ii) scheme of wage employment for creation of socially and economically useful public assets in the jurisdiction of urban local bodies. This scheme is applicable in (a) towns with less than 20,000 population and (b) towns with population from 20,000 to one lakh, (iii) scheme of employment through

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housing and shelter upgradation in low income neighbourhoods mainly for the urban poor and economically weaker sections and training and infrastructure support for promotion of construction skills among beneficiaries. This scheme is applicable in settlements with population between one lakh and twenty lakh.

While the target group of the Yojana is urban poor, women beneficiaries and beneficiaries belonging to scheduled castes and scheduled tribes will constitute special target groups. The main achievements of the scheme for the period ending December 1992 are as such (I) Scheme of Urban Micro Enterprises (SUME): Subsidy to the tune of Rs 63.97 crore and institutional finance (in the form of bank loans) to the tune of Rs 190 crore (approximately) *i.e.*, three times of the subsidy have been sanctioned to the beneficiaries since the inception of the Yojana in 1989. Under the Training and Infrastructure Support component, 76,960 beneficiaries have been trained/are undergoing training for skill upgradation; (II) Scheme of Urban Wage Employment (SUWE): Under this scheme, the states/UTs have reported expenditure of Rs 139.85 crore till 31 January 1993 on creation of public assets in low income neighbourhoods and 238 lakh man-days of wage employment has been generated for the urban poor; (III) Scheme of Housing and Shelter Upgradation (SHASU): HUDCO has sanctioned schemes from various states/union territories worth Rs 275.89 crore (subsidy of Rs 56.52 crore and loans upto Rs 219.37 crore) involving upgradation of more than seven lakh dwelling units till 31 January 1993.

CENTRAL PUBLIC WORKS DEPARTMENT

The Central Public Works Department (CPWD) is the official agency of the Government of India for construction and maintenance of all Central government buildings except those of the railways, communication, atomic energy, defence services and All India Radio. The spectrum of the activities of the CPWD is very wide, ranging from the selection of site, architectural, structural and landscape planning, design, execution, including budgeting, monitoring and quality control to completion and post-completion maintenance. Contract management and defending arbitration cases are also done by the CPWD. The CPWD handles a wide-range of projects like housing and commercial complexes, educational institutions, hospitals, workshops, factories, food-grain storage structures, airports, roads, bridges, sports complexes, mints, electronic complexes, National Library and Parliament Library etc.

In recent times, the CPWD has been engaged in providing border fencing, flood lighting and roads along the sensitive Indo-Pak and Indo-Bangladesh borders. The work is being enacted under very severe and hostile conditions and yet keeping up to the tight time schedules laid down by the Ministry of Home Affairs. The CPWD has gained considerable expertise in the study of restoration and rehabilitation of structures damaged by natural disasters. A study on the nature of the Uttarkashi (UP) earthquake and its effect on structures in the area has been conducted by

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CPWD. The findings have been well documented and provide the basis for evolving standards and techniques of construction in earthquake prone areas. The expertise gained by CPWD in this field is presently being utilised by the Government of India to study the effects of the Cairo earthquake on embassy buildings. Restoration, rehabilitation and reconstruction of fire-damaged buildings is another area of speciality of the CPWD. At present the CPWD is engaged in renovating the Vigyan Bhawan, the international conference centre, which was damaged by fire in April 1990. The CPWD has introduced the concept of energy-efficient design of buildings by adopting the principle of solar-passive architecture, in a group housing project at New Delhi. It provides comprehensive, turnkey consultancy services to various Central and state government departmnts, PSUs and other government and private organisations within the country and overseas. The technology application and development cell of the CPWD has undertaken studies in the wood substitution, waste utilisation, improved durability of construction and modular systems and standardization. Out of these the search for alternatives to the use of wood in construction, has been given top priority keeping in mind the imperative need for environmental protection and conservation of natural resources. CPWD also manufactures and uses fly-ash bricks which are not only economical but also eco-friendly.

NATIONAL CAPITAL REGION PLANNING BOARD

The National Capital Region Planning Board (NCRBP) has been set up with statutory powers under the National Capital Region Planning Board Act, 1985, to plan and promote a balanced and harmonised development of National Capital Region (NCR). This is a unique concept of regional development providing partnership approach with the Centre taking lead and three participating states Haryana, Rajasthan and Uttar Pradesh and Union Terriotry of Delhi and evolving an integrated development framework for the region. NCR development is expected to cost nearly Rs 3,000 crore.

NCR being one of the most urbanised regions of the country has been facing serious problems of unplanned and haphazard development particularly in Delhi and its adjoining areas which are growing at an alarming rate. Delhi itself is besieged by a host of serious problems due to shortages in water supply, power, public transport and sanitation. This is further aggravated by constant migration mainly because of its high employment generation capacity and better quality of living. Besides Delhi, metropolitan area towns are growing very rapidly because of their close proximity to the national capital resulting in rapid growth around Delhi.

NCRPB has prepared a Statutory Regional Plan-2001 for NCR which came into force from 23 January 1989. Two important goals are (i) a balanced and harmonised developed region leading to dispersal of economic activities and (ii) population. The plan is an integrated policy framework relating to population distribution, settlement, system,

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transport and telecommunications, physical and social infrastructure, regional land use, environment and eco-development, management structure of plan implementation and counter-magnet areas for development outside NCR.

NCRPB has identified priority towns/complexes in the region for induced rapid growth through creation of economic activities with a view to attracting potential Delhi-bound migrants. It will help reduce pressure on Delhi. In addition, the Plan envisages development of sub-regional centres, service centres and basic villages in various sub-regions of the National Capital Region.

CONSTRUCTION AGENCIES

NATIONAL BUILDINGS CONSTRUCTION CORPORATION

National Buildings Construction Corporation (NBCC) was incorporated in 1960. It is one of the premier construction organisations which is actively engaged in execution of sophisticated construction/turn-key contracts, both at home and abroad. Its projects are put on network system. It has to its credit several important projects including major industrial structures, power stations, cement plants, fertilizer plants and refineries, tall RCC chimneys, bridges, flyovers, air-ports, luxury hotel complexes, water treatment plants and marine jobs, etc. It also provides consultancy services.

HINDUSTAN PREFAB LIMITED

The Hindustan Prefab Limited (earlier known as Hindustan Housing Factory), New Delhi, became a fully-owned Government company in 1955. It is engaged in production of pre-stressed concrete electric poles and railway sleepers. The company also manufactures wooden joinery items and prefab/general construction works. Quality of wooden joinery items *viz.*, doors and window shutters manufactured by the company, is the best in the country. Pre-fabricated components for industrial structures have not only effected saving in steel and resulted in quicker construction but also reduced construction cost to some extent.

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26 Justice and Law

CONSTITUTION of the Republic of India guarantees, besides other rights, safeguards against arbitrary deprivation of life and personal liberty by providing in Article 21 that no person shall be deprived of his life or personal liberty except according to procedure established by law.

Adoption of a Republican Constitution by India in 1950 did not disturb continuity of existing laws and unified structure of courts. Unity and uniformity of the judicial structure were preserved by placing such areas of law as criminal law and procedure, civil procedure, will, succession, contract including special form of contract, but not including contract relating to agricultural land, registration of deeds and documents, evidence, etc., in Concurrent List.

SOURCES OF LAW

Main sources of law in India are the Constitution, statutes (legislation), customary law and case law. Statutes are enacted by Parliament, state legislatures and union territory legislatures. Besides there is a vast body of laws known as subordinate legislation in the form of rules, regulations as well as bye-laws made by Central/state governments and local authorities like municipal corporations, municipalities, *gram panchayats* and other local bodies. This subordinate legislation is made under the authority conferred or delegated either by Parliament or state or union territory legislatures concerned. Judicial decisions of superior courts like Supreme Court and High Courts are important sources of law. Decisions of Supreme Court are binding on all courts within the territory of India. As India is a land of diversities, local customs and conventions which are not against statute, morality, etc., are to a limited extent also recognised and taken into account by courts while administering justice in certain spheres.

ENACTMENT OF LAWS

Parliament is competent to make laws on matters enumerated in Union List. State legislatures are competent to make laws on matters enumerated in State List. Parliament alone has power to make laws on matters not included in State List or Concurrent List. On matters enumerated in Concurrent List, laws can be made by both Parliament as well as state legislatures. But in event of repugnancy, law made by Parliament shall prevail and law made by state legislature, to the extent of repugnancy, be void unless the latter law having

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been reserved for consideration of President, has received his assent, and in that event it shall prevail in that state.

EXTENSION OF LAWS

Laws made by Parliament may extend throughout or to any part of the territory of India and those made by state legislature may generally apply only within the territory of the state concerned. Hence, variations are likely to exist from state to state in provisions of law relating to matters falling within State and Concurrent lists.

JUDICIARY

One of the unique features of Indian Constitution is that notwithstanding the adoption of a federal system and existence of Central Acts and State Acts in their respective spheres, it has generally provided for a single integrated system of courts to administer both Union and state laws. At the apex of entire judicial system exists Supreme Court of India with a High Court of each state or group of states and under High Courts, there is a hierarchy of subordinate courts. There is generally separation of judiciary from executive. *Panchayat* courts also function in some states under various names like *Nyaya Panchayat, Panchayat Adalat, Gram Kachhari*, etc., to decide civil and criminal disputes of petty and local nature. Different state laws provide for different kinds of jurisdiction of courts.

Each state is divided into judicial districts presided over by a district and sessions judge, who is the principal civil court of original jurisdiction and can try all offences including those punishable with death. He is the highest judicial authority in a district. Below him, there are courts of civil jurisdiction, known in different states as *munsifs*, sub-judges, civil judges and the like. Similarly, criminal judiciary comprises chief judicial magistrate and judicial magistrates of first and second class.

SUPREME COURT

The Supreme Court of India comprises Chief Justice and not more than 25 other Judges appointed by the President. Judges hold office till 65. For appointment as a Judge of the Supreme Court, a person must be a citizen of India and must have been for at least five years a Judge of a High Court or of two or more such courts in succession; or an Advocate of a High Court or of two or more such courts in succession for at least 10 years or he must be in the opinion of the President, a distinguished jurist. Provision exists for the appointment of a Judge of a High Court as an *adhoc* Judge of the Supreme Court and for retired Judges of Supreme Court or High Courts to sit and act as judges of that court.

The Constitution seeks to ensure independence of Supreme Court judges in various ways. A judge of the Supreme Court cannot be removed from office except by an order of the President passed after an address in

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each House of Parliament supported by a majority of the total membership of that House and by a majority of not less than two-third of members present and voting, and presented to the President in the same session for such removal on the ground of proved misbehaviour or incapacity. A person who has been a judge of the Supreme Court is debarred from practising in any court of law or before any other authority in India. The seat of Supreme Court of India is in New Delhi. Members of court presently are: Chief Justice M.N. Venkatachaliah; Judges: S. Ratnavel Pandian, T.K. Thommen, A.M. Ahmadi, Kuldip Singh, J.S. Verma, V. Ramaswami, P.B. Sawant, N.M. Kasliwal, M.M. Punchhi, K. Ramaswamy, K. Jayachandra Reddy, S.C. Agrawal, R.M. Sahai, Yogeshwar Dayal, S. Mohan, B.P. Jeevan Reddy, G.N. Ray, A.S. Anand, N.P. Singh, S.P. Bharucha and N. Venkatachala.

JURISDICTION OF SUPREME COURT

The Supreme Court has original, appellate and advisory jurisdiction. Its exclusive original jurisdiction extends to any dispute between Government of India and one or more states or between Government of India and any state or states on one side and one or more other states on the other or between two or more states, if and in so far as the dispute involves any question (whether of law or of fact) on which existence or extent of a legal right depends. In addition, Article 32 of the Constitution gives an extensive original jurisdiction to the Supreme Court in regard to enforcement of Fundamental Rights. It is empowered to issue directions or orders or writs, including writs in the nature of habeas corpus, *mandamus, prohibition, quo warranto* and *certiorari* to enforce them. Supreme Court has been conferred with powers to direct transfer of any civil/criminal case from one state High Court to another state High Court or from a court subordinate to another state High Court to a court of competent jurisdiction subordinate to another state High Court. Supreme Court, if satisfied that cases involving the same or substantially the same questions of law are pending before it in one or more High Courts or before two or more High Courts and that such questions are substantial questions of general importance, may withdraw case or cases pending before High Court or High Courts and dispose of all such cases itself.

Appellate jurisdiction of the Supreme Court can be invoked by a certificate of the High Court concerned or by special leave granted by the Supreme Court in respect of any judgement, decree or final order of a high court in cases both civil and criminal, involving substantial questions of law as to the interpretation of the Constitution. Appeals also lie to Supreme Court in civil matters, if the High Court concerned certifies: (a) that the case involves a substantial question of law of general importance and (b) that in the opinion of the High Court, the said question needs to be decided by the Supreme Court. In criminal cases, an appeal lies to Supreme Court, if High Court (a) has on appeal reversed an order of acquittal of an accused and sentenced him to death or to imprisonment for

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life or for a period of not less than 10 years or (b) has withdrawn for trial before itself any case from any court subordinate to its authority and has in such trial convicted the accused and sentenced him to death or to imprisonment for life or for a period of not less than 10 years or (c) certifies that the case is a fit one for appeal to the Supreme Court. Parliament is authorised to confer on the Supreme Court any further powers to entertain and hear appeals from any judgment, final order or sentence in a criminal proceedings of a High Court.

Supreme Court has also a very wide appellate jurisdiction over all courts and tribunals in India in as much as it may, in its discretion, grant special leave to appeal from any judgment, decree, determination, sentence or order in any cause or matter passed or made by any court or tribunal in the territory of India. Supreme Court has a special advisory jurisdiction in matters which may specifically be referred to it by the President under Article 143 of the Constitution. There are provisions for reference to this Court under Article 317(1) of the Constitution, 257 of the Income-Tax Act, 1961, Section 7(2) of the Monopolies and Restrictive Trade Practices Act, 1969, 130A of the Customs Act, 1962, Section 35H of the Central Excise and Salt Act, 1944 and Section 820 of the Gold (Control) Act, 1968. Appeals also lie to Supreme Court under the Representation of the People Act, Monopolies and Restrictive Trade Practices Act, Advocates Act, Contempt of Courts Act, Customs Act, Central Excise and Salt Act, Terrorist affected Areas (Special Courts) Act, 1984 and Terrorist and Disruptive Activities (Prevention) Act, 1985. Election petitions under Part III of the Presidential and Vice Presidential Elections Act, 1952, are also filed directly in the Supreme Court.

HIGH COURTS

High Court stands at the head of the state's judicial administration. There are 18 High Courts in the country, three having jurisdiction over more than one state. Among the union territories, Delhi alone has a High Court of its own. Other six union territories come under jurisdiction of different state High Courts. Each High Court comprises a Chief Justice and such other Judges as the President may, from time to time, appoint. The Chief Justice of a High Court is appointed by the President in consultation with the Chief Justice of India and the Governor of the state. The procedure for appointing *puisne* judges is the same except that the Chief Justice of the High Court concerned is also consulted. They hold office uptil 62 and are removable in the same manner as a judge of the Supreme Court. To be eligible for appointment as a judge one must be a citizen of India and have held a judicial office in India for ten years or must have practised as an advocate of a High Court or two or more such courts in succession for a similar period.

Each High Court has power to issue any person or authority and Government within its jurisdiction, direction, orders or writs including writs which are in the nature of *habeas corpus, mandamus, prohibition, quo*

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warranto and certiorari for enforcement of Fundamental Rights and for any other purpose. This power may also be exercised by any High Court exercising jurisdiction in relation to territories within which the cause of action, wholly or in part, arises for exercise of such power, notwithstanding that the seat of such Government or authority or residence of such person is not within those territories. The total sanctioned strength of judges and additional judges in different High Courts is 512 against which 441 were in position as on 1 February 1993. Table 26.1 gives the seat and territorial jurisdiction of the High Courts.

TABLE 26.1 JURISDICTION AND SEAT OF HIGH COURTS

Name	Year of establishment	Territorial Jurisdiction	Seat
Allahabad	1866	Uttar Pradesh	Allahabad (Bench at Lucknow)
Andhra Pradesh	1954	Andhra Pradesh	Hyderabad
Bombay	1862	Maharashtra, Goa, Dadra and Nagar Haveli and Daman and Diu.	Bombay (Benches at Nagpur, Panaji and Aurangabad)
Calcutta	1862	West Bengal	Calcutta (Circuit Bench at Port Blair)
Delhi	1966	Delhi	Delhi
Guwahati	1948[1]	Assam, Manipur, Meghalaya, Nagaland, Tripura, Mizoram and Arunachal Pradesh	Guwahati (Benches at Kohima, Aizawl, Imphal and Agartala Circuit Bench at Shillong)
Gujarat	1960	Gujarat	Ahmadabad
Himachal Pradesh	1971	Himachal Pradesh	Shimla
Jammu & Kashmir	1928	Jammu & Kashmir	Srinagar and Jammu
Karnataka	1884[2]	Karnataka	Bangalore
Kerala	1958	Kerala & Lakshadweep	Ernakulam
Madhya Pradesh	1956	Madhya Pradesh	Jabalpur (Benches at Gwalior and Indore)
Madras	1862	Tamil Nadu and Pondicherry	Madras
Orissa	1948	Orissa	Cuttack
Patna	1916	Bihar	Patna (Bench at Ranchi)
Punjab and Haryana	1975[3]	Punjab, Haryana and Chandigarh	Chandigarh
Rajasthan	1949	Rajasthan	Jodhpur (Bench at Jaipur)
Sikkim	1975	Sikkim	Gangtok

1. Originally known as Assam High Court, renamed as Guwahati High Court in 1971.
2. Originally known as Mysore High Court, renamed as Karnataka High Court in 1973.
3. Originally known as Punjab High Court, renamed as Punjab and Haryana High Court in 1966.

Each High Court has powers of superintendence over all courts within its jurisdiction. It can call for returns from such courts, make and issue general rules and prescribe forms to regulate their practices and proceedings and determine the manner and form in which book entries and accounts shall be kept.

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ADMINISTRATIVE TRIBUNALS

In pursuance of the provisions of Article 323-A of the Constitution of India which provides for adjudication or trial by the Administrative Tribunals of disputes and complaints relating to recruitment and conditions of service of persons appointed to public services and posts in connection with the affairs of the Union Government and state governments, the Administrative Tribunals Act, 1985 was passed by Parliament. Under this Act, Central Administrative Tribunal (CAT) was set up on 1 November 1985 to provide speedy and inexpensive justice to the Central Government employees in respect of their service matters. The Principal Bench of CAT is in New Delhi. Besides, there are sixteen other regular benches at Principal seats of High Courts, namely Ahmadabad, Allahabad, Lucknow, Bangalore, Calcutta, Chandigarh, Cuttack, Ernakulam, Guwahati, Hyderabad, Jabalpur, Jaipur, Jodhpur, Madras, Bombay and Patna. These benches also hold Circuit Sittings at other seats of High Courts where workload for the tribunal is less.

Section 4(2) of the Administrative Tribunals Act, 1985, provides for setting up of State Administrative Tribunal by the Central Government on receipt of specific request made by the state government. Under this, State Administrative Tribunals have been set up in Himachal Pradesh, Orissa, Maharashtra, Karnataka, Madhya Pradesh, Tamil Nadu and Andhra Pradesh. Like CAT, the State Administrative Tribunals enjoy jurisdiction, powers and authority of all courts except that of Supreme Court in regard to service matters of the state government employees.

SUBORDINATE COURTS

Subject to minor variations, the structure and functions of subordinate courts are more or less uniform throughout the country. Designations of courts connote their functions. These courts deal with all disputes of civil or criminal nature as per the powers conferred on them. These courts have been derived principally from two important codes prescribing procedure *i.e.*, the Code of Civil Procedure, 1908 and the Code of Criminal Procedure, 1973 and further strengthened by local statutes. At the lowest level are courts described as *munsif* magistrate or civil judge or judicial magistrate first class. In some states, *munsif* is also described as district *munsif*. Ordinarily such courts are set up at *taluka*/tehsil level with jurisdiction over one or more *talukas*/tehsils. Most of the disputes, subject to ceiling on pecuniary limits are brought to these courts. In some states, where the workload does not justify the existence of two separate cadres, *munsif* is also invested with powers of a magistrate. Members of this cadre, when posted in large urban areas, are assigned either exclusively civil or exclusively criminal work. When they are posted in the metropolitan areas, they are described as metropolitan magistrates and chief judicial magistrates.

The next set of courts is described as courts of district and sessions judge which also include courts of additional judge, joint judge or assistant judge. The court of the district and sessions judge at district level is the principal

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court of original jurisdiction. It is presided over by an officer called district and sessions judge. As a rule, the same officer invested with power, under both the statutes, presides over the court and it is known as district and sessions court. Depending upon workload, a district court may have jurisdiction over more than one district. In some states, there is a court called court of civil and sessions judge. These courts generally have unlimited pecuniary jurisdiction and depending upon the power conferred on the incumbent officer incharge of the court, it can handle criminal cases. In some states, these courts with unlimited pecuniary jurisdiction are called courts of civil judge (senior division) while in some states they are described as courts of subordinate judge.

In addition, there are courts known as small causes court. These are set up either under the Provisional Small Causes Act at the district level or under the Presidency Town Small Cause Court Act in Presidency metropolitan towns. The Constitution lays down provision for appointment of district judge and recruitment of persons other than district judges to the judicial service. It vests the power to control district courts and courts subordinate thereto in the respective High Courts.

FAMILY COURTS

The Family Courts Act, 1984, aims at promoting conciliation in and securing speedy settlement of disputes relating to marriage and family affairs and related matters. It envisages that courts shall be set up in a city or town with a population of more than 10 lakh, and at such other places as the state government may deem necessary. So Far, 29 family courts have already been set up in different states 10 in Uttar Pradesh, five in Rajasthan, three in Kerala, two each in Karnataka, Maharashtra and Orissa and one each in Assam, Bihar, Manipur, Tamil Nadu and Union Territory of Pondicherry. Besides, necessary notifications extending the jurisdiction of the Family Courts Act have also been issued by the Union Government in respect of Haryana, Sikkim, West Bengal and the Union Territories of Andaman and Nicobar Islands and Delhi.

LEGAL AID

A high powered committee was constituted under the Chairmanship of Justice P.N. Bhagwati, Judge of the Supreme Court in September 1980. It has been reconstituted from time to time. The composition of the Committee has been revised and its term has been extended from 14 November 1992 to 13 November 1993 or till the Legal Services Authorities Act comes into force, whichever is earlier. As in 1993 Justice M.N. Venkatachaliah, Chief Justice of India, is its Patron-in-Chief and Justice A.M. Ahmadi, Judge of the Supreme Court is its Executive Chairman. The model scheme formulated by the Committee has been adopted by most of the states and union territory administrations. According to the scheme, every citizen whose annual income does not exceed Rs 6,000 is eligible for free legal aid in cases before High

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Courts and subordinate courts. In cases before the Supreme Court, the limit is of Rs 12,000. Limitation as to income is not applicable in case of disputes, where one of the parties belongs to the scheduled castes, scheduled tribes, *vimukta Jati*, nomadic tribes or is a woman or a child.

Under the scheme, legal aid and advice boards have been set up in most of the states. These boards have set up legal aid committees at High Court and District Court levels and in most places at the *taluka* levels also. The High Court Legal Aid Committees and the Supreme Court Legal Aid Committee have been set up for dispensing legal aid in pending cases.

The strategic legal aid programme adopted by the Committee includes promotion of legal literacy; setting up of legal aid clinics in universities and law colleges; training of para-legals; setting up of rural entitlement and legal support centres; promotion of public interest litigation and holding of legal aid camps and *Lok Adalats*. *Lok Adalats* have proved an effective mechanism for resolution of disputes through conciliatory methods.

ATTORNEY GENERAL

Attorney General of India is appointed by the President and holds office during the pleasure of the President. He must be a person qualified to be appointed as a judge of the Supreme Court. It is the duty of the Attorney General of India to give advice to the Government of India upon such legal matters and to perform such other duties of legal character as may be referred or assigned to him by the President. In the performance of his duties, he has the right of audience in all courts in India as well as the right to take part in the proceedings of Parliament without the right to vote. In discharge of his functions, the Attorney General is assisted by a Solicitor General and four Additional Solicitors General.

LEGAL PROFESSION

In India, law relating to legal profession is governed by the Advocates Act, 1961 and the rules framed thereunder by the Bar Council of India. It is a self-contained code relating to legal practitioners and provides for the constitution of State Bar Councils and the Bar Council of India. A person enrolled as an advocate under the Advocates Act, 1961, is entitled to practise law throughout the country. An advocate on the roll of a State Bar Council may apply for transfer to the roll of any other State Bar Council in the prescribed manner. No person can be enrolled as an advocate on the roll of more than one State Bar Council.

There are two classes of advocates namely, senior advocates and other advocates. An advocate may, with his consent, be designated as a senior advocate, if the Supreme Court or a High Court is of the opinion that by virtue of his ability, standing at the Bar or special knowledge or experience in law, he deserves such distinction. A senior advocate cannot appear without an advocate-on-record in the Supreme Court or without some

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other advocate in the state roll in any other court or tribunal. Standards of education, etc., have been prescribed for enrolment as an advocate. There are also rules regulating standards of professional conduct and etiquette and other matters.

Bar councils have disciplinary jurisdiction over advocates whose names appear on their rolls. This is subject to a right of appeal to the Bar Council of India and a further right of appeal to the Supreme Court of India.

LAW COMMISSION

Changing social, economic and ethical conditions in the society necessitate the periodical revision of statute law and that function is assigned to the Law Commission of India to ensure that the laws are formulated and revised in the light of the cherished ideals enshrined in the Constitution. Thirteenth Law Commission has since been re-constituted with effect from 1 September, 1991 for a period of three years. The Hon'ble Justice K.N. Singh, former Chief Justice of India has been appointed as its Honorary Chairman. Shri Justice S. Ranganathan, former Judge of the Supreme Court of India and Prof. D.N. Sandanshiv, have been appointed full-time Members of the Law Commission. Justice Mohd. Sardar Ali Khan, who was earlier appointed as full-time member of the Commission has opted for part-time membership. P.M. Bakshi and Prof. Marcus are part-time members of the Law Commission. Shri CH. Prabhakar Rao has joined as Member-Secretary of the Law Commission.

The terms of reference of the Law Commission are: (i) law and poverty: (a) to examine the laws which affect the poor and carry out post-audit of socio-economic legislations and (b) to take all such measures as may be necessary to harness law and the legal process in the service of the poor; (ii) to keep under review the system of judicial administration to ensure that it is responsive to the reasonable demands of the times and in particular to secure: (a) elimination of delays, speedy clearance of arrears and reduction in costs so as to secure quick and economical disposal of cases without affecting the cardinal principle that decisions should be just and fair; (b) simplification of procedure to reduce and eliminate technicalities and devices for delay so that it operates not as an end in itself but as a means of achieving justice and (c) improvement of standards of all concerned with the administration of justice; (iii) to examine the existing laws in the light of Directive Principles of State Policy and to suggest ways of improvement and reform and also to suggest such legislation as might be necessary to implement the Directive Principles and to attain the objectives set out in the Preamble to the Constitution; (iv) to revise the Central Acts of general importance so as to simplify them and to remove anomalies, ambiguities and inequities; (v) to recommend to the Government, measures for bringing the statute book up-to-date by repealing obsolete laws and enactments or parts thereof which have outlived their utility and (vi) to consider and to convey to the Government its view on any other subject relating to law and judicial administration that may be referred to it.

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LOK ADALAT

Lok Adalats which are voluntary agencies at present are monitored by the State Legal Aid and Advice Boards. They have proved to be a successful alternative forum for resolution of disputes through conciliatory method. The Legal Services Authorities Act, 1987 (39 of 1987), has been enacted. The Act provides statutory status to the legal aid movement and it also provides for setting up of Legal Services Authorities at the Central, state and district levels. These authorities will have their own funds. Further, Lok Adalats which are at present informal agencies, will acquire statutory status. Every award of *Lok Adalats* shall be deemed to be a decree of a civil court or order of a Tribunal and shall be final and binding on the parties to the dispute. It also provides that in respect of cases decided at a *Lok Adalat,* court fee paid by the parties will be refunded.

ENFORCEMENT AGENCIES

POLICE

Police force in the country is entrusted with the responsibility of maintenance of public order and prevention and detection of crimes. Public order and police being state subjects under the Constitution, police is maintained and controlled by states. Police force in state is headed by the Director General of Police/Inspector General of Police. State is divided into convenient territorial divisions called ranges and each police range is under administrative control of a Deputy Inspector General of Police. A number of districts constitute the range. District police is further sub-divided into police divisions, circles and police stations. Besides the civil police, states also maintain their own armed police and have separate intelligence branches, crime branches, etc. Police set-up in big cities like Delhi, Calcutta, Bombay, Madras, Bangalore, Hyderabad, Ahmadabad, Nagpur, etc., is directly under a Commissioner of Police who enjoys magisterial powers. All senior police posts in various states are manned by the Indian Police Service (IPS) cadres, recruitment to which is made on all-India basis. Recruitment, promotion and cadre control in respect of lower posts from police constable to deputy superintendent of police are done by the state governments. The Government maintains a number of Central forces. Central Bureau of Intelligence (IB) and Central Bureau of Investigation (CBI), a number of institutions for training of police officers and scientific or technical assistance in investigation and detection of crimes are maintained by the Government.

ASSAM RIFLES

The Assam Rifles with its history of 158 years of glorious service, is the oldest para-military force in the country. Presently the Assam Rifles are mainly engaged in controlling insurgents who have brought instability and in-security to the people of north-eastern region of our country and in guarding the Sino-India and Indo-Myanmar border. The Force has about 54,000 men

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and is headed by a Director General with headquarters at Shillong. Bulk of the Force is operating under Army Command.

BORDER SECURITY FORCE

After Pakistan's aggression in the Rann of Kutch in 1965, on recommendations of Study Group and Committee of Secretaries, a permanent central border security force was felt necessary to replace multiplicity of state police forces guarding the international border during peace time. This is how Border Security Force (BSF) was constituted as a Central force in 1965. The role of BSF has been defined as follows: (a) promote a sense of security amongst the people living in the border areas; (b) prevent trans-border crimes, unauthorised entry into or exit from the territory of India; (c) prevent smuggling and any other illegal activities and (d) to help civil administration in the maintenance of public order. The war time utilisation of the BSF has been laid down as follows: (a) holding ground in less threatened sectors so long as the main attack does not develop in a particular sector and it is felt that the local situation is within the capability of the BSF to deal with. The BSF units can continue to remain deployed in a particular sector even in a war situation in order to release the Army for offensive tasks. In the event of a major attack developing, which is not within the capacity of the BSF to deal with, the Army can be expected either to reinforce the BSF with artillery or other support, or relieve the BSF from its role in a particular sector and (b) protection of vital installations, particularly airfields, against the enemy commando/paratroops or raids. This role can be entrusted to the BSF units which are placed under the operational control of the Army.

Since its inception, the BSF have grown manifold. Role of BSF has further increased in view of activity in border states and smuggling of arms by terrorists. More than one third force is deployed on internal security duties in various parts of the country, major portion of which is deployed in Kashmir. BSF headquarters, in Delhi, is headed by a Director General. It maintains adequate liaison with other forces operating in border areas like customs, revenue intelligence and local police authorities. Maintenance of boundary pillars is an additional task which is undertaken in cooperation with the Survey of India. The force has five major training institutions namely (a) BSF Academy at Tekanpur (Gwalior) which undertakes training of officers, subordinate officers and other ranks, both initial and advanced training; (b) Training Centre and School at Hazaribagh which undertakes training in specialist weapons and specialises in jungle training; (c) Central School of Weapons and Tactics at Indore; (d) Signal Training School at New Delhi and (e) Signal Training School at Bangalore. The force has also set up a factory at Tekanpur for manufacturing tear smoke shell grenades to meet requirements of various police forces in the country. Its present annual production is 90,000 ammunitions. All tear smoke munitions required in the country are indigenously met by this unit. It is the only factory of its type in Asia and there are only four to five other factories in

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the world which manufacture this ammunition. There is a Central Workshop and Stores (CENWOSTO) at Tekanpur and 11 Small Arms Workshops (SAWs). These workshops not only carry out major repairs of arms but also fabricate spares and other accessories of arms for BSF and various other state police forces. For effective conduct of operations and administration, BSF has got ancillary units like Artillery, Water Wing, Air Wing, Dog Training School, Camel and Equestrian Wings. In addition BSF has set up a number of workshops for repair of small arms which cater to the needs of police organisations of states/UTs for repair/maintenance of their weapons like pistols, rifles, carbines etc.

NATIONAL POLICE ACADEMY

Sardar Vallabhai Patel National Police Academy established at Mount Abu in 1948, as Central Police Training College was shifted to its present location in Hyderabad in 1975. As India's premier police training institution, the Academy conducts induction level and in-service training courses for the Indian Police Service officers, as well as overseas police officers. It also conducts specific courses for all India service and Central Services Group 'A' officers. Some other activities of the Academy include the Sardar Vallabhbhai Patel Memorial Lecture conducted annually, the Prime Minister's Silver Cup Essay Competition annually and publication of the Academy magazine bi-annually, apart from promoting study and research on police related topics.

NATIONAL INSTITUTE OF CRIMINOLOGY AND FORENSIC SCIENCE

The National Institute of Criminology and Forensic Science, New Delhi was established in 1971 to undertake research and training in criminology and forensic science. It conducts integrated in-service training programmes for the functionaries of criminal justice system. Officers from the Government departments and public sector undertakings within the country and also from neighbouring countries come to this Institute for short term and long term orientational/interactional/professional courses. The training courses run throughout the year in the faculties of criminology and forensic science. The Institute also provides consultancy services to various ministries and other Central government departments/universities/banks/Narcotics Control Bureau etc.

CENTRAL BUREAU OF INVESTIGATION

Central Bureau of Investigation (CBI) was created in April 1963. Prior to that the organisation was known as Special Police Establishment created and functioning under the Delhi Special Police Establishment Act, 1964. In 1963, after the creation of the Central Bureau of Investigation, the functions of this organisation were enlarged covering besides investigation the role of National

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Central Bureau for India under the International Criminal Police Organisation (INTERPOL) as also the Central Forensic Science Laboratory.

CBI through its Special Police Establishment Division is the principal investigating agency of the Central Government and is concerned with the investigation cases of misconduct by public servants in the employment of Central Government and its corporate undertakings; cases in which the interest of the Central Government or any corporation or body set up and financed by the Central Government are involved, cases relating to breaches of Central laws in the enforcement of which the Central Government is interested; big cases of fraud, cheating and embezzlement and other cases when committed by organised gangs or professional criminals having inter-state or international ramifications. CBI derives its power to investigate offences mentioned above from the Delhi Special Police Establishment Act, 1946. During 1991, CBI took up 1,180 cases for investigation involving 933 officers of gazetted status, 555 other public servants and 955 private persons. As a result of investigation, 382 cases involving 172 public servants of gazetted status, 179 other public servants and 577 private persons were prosecuted in court of law. CBI indexes criminals involved in international crimes and verifies finger prints from various foreign national crime bureaux. INTERPOL notices are also circulated to various enforcement agencies in the country.

CENTRAL INDUSTRIAL SECURITY FORCE

The Central Industrial Security Force (CISF) was raised under an Act of Parliament in 1969 for the better protection and security of industrial undertakings owned by the government. It was declared an Armed Force of the Union after the passage of the CISF (Amendment) Act, 1983, on 15 June 1983. The Force is headed by a Director General with headquarters in New Delhi. The strength of the CISF was 84,920 as on 17 February 1993. It is inducted in 212 public sector undertakings. These are in vital sectors such as steel, fertilizer, oil, coal, ports, space, atomic energy, etc. CISF also provides aid to civil powers for internal security duties on the directions of the Ministry of Home Affairs as and when necessary.

CENTRAL RESERVE POLICE FORCE

The Central Reserve Police Force raised in 1939 has now 123 duty battalions including one *Mahila* battalion and 10 rapid action force battalions. These are deployed to reinforce state/union territory police in maintenance of law and order to help fight insurgency and in arranging relief at the time of natural calamities etc. CRPF personnel were deployed largely in Punjab and Jammu and Kashmir to fight terrorism.

PRISONS

Prisons is a state subject under the Constitution of India. Administration and management of prisons including maintenance and upkeep of prisoners are

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regulated under the Prisons Act, 1894, the Prisons Act, 1900 and the Transfer of Prisoners Act, 1950 as adopted by the states. Administration of prisons is carried on in accordance with the rules framed under these acts and incorporated in prison manuals of respective states/union territories. There are different types of jails-central jails, district jails, sub-jails, open jails, institutions for young offenders and jails for women. Administrative set-up of jails in states is headed by the Director General/Inspector General of Prisons.

The All India Committee on Jails Reforms set up on 25 July 1980, headed by Justice A.N. Mulla, submitted its report in March 1983. It contains a large number of recommendations on various aspects of prison administration. Most of them are required to be implemented by state governments and union territory administrations while some others by Central Government. Based on the recommendations, certain areas were identified as essential to be taken up on priority basis and financial requirement for implementing the recommendations was projected to the Eighth Finance Commission. The Commission recommended outlays for upgradation. Accordingly a sum of Rs 137.56 crore was earmarked for allocation to 16 states during 1985-89. Funds were made available for creating additional jail capacity for undertrials, young offenders, women prisoners, lunatic prisoners and providing prison amenities *i.e.*, water supply, better toilets, electrification and prison staff accommodation. Rs 33.53 crore was allocated to various states for improving jail administration for 1989-90 under the award of the Ninth Finance Commission (First Report).

Several other important aspects of prison administration like security and discipline, repairs and renovation of old jail buildings, strengthening of administrative arrangements in prisons and training of prison staff to upgrade their skills and providing medical facilities, etc., were also covered under the Scheme of Modernisation of Prison Administration (1987-92), under which assistance was provided to states on 50:50 basis and also cent per cent grant in respect of some items. An amount of Rs 45.09 crore was released to states/union territory administrations during 1987-92. An Institute of Correctional Administration has been set up recently in Chandigarh as a registered society. This will initially cater to the training needs of middle and senior level correctional officers of other department in northern states and union territories.

The Scheme has further been extended as a Plan scheme for a further period of four years (1993-97) with a total outlay of Rs 50 crore. Under this sufficient funds will be provided to state governments for creating security enclosures for high security prisoners.

CIVIL DEFENCE

Civil Defence aims at saving life, maintaining continuity of production and minimising damage to the property in the event of hostile attacks. It also maintains the morale of people in disastrous situations.

As per government's policy, Civil Defence measures are confined to selected places and vital plants/installations depending upon their strategic

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and tactical importance. Civil defence is organised primarily on voluntary basis except for a small permanent nucleus staff which is augmented during war/emergencies. Civil defence communication system aims at establishing an early warning system and implementing a network of communication channels in vulnerable zones for better command and control facilities.

Ministry of Home Affairs shares expenditure on the implementation of civil defence measures on authorised items by states on 50:50 basis except for north-eastern states and five northern districts of West Bengal where Central government bears expenditure on preferential basis. Present strength of civil defence volunteers is 6.12 lakh out of which 3.36 lakh volunteers have since been raised and 3.10 lakh of them trained upto December 1992. National Civil Defence College, Nagpur conducts various civil defence courses for instructors, staff officers, NCC officers and also for officers of other government departments and private and public sector undertakings.

HOME GUARDS

Home Guards is a voluntary force first raised in India in December 1946 to assist the police in controlling civil disturbances and communal riots. Subsequently, the concept of the voluntary citizens force was adopted by several states. In the wake of Chinese aggression in 1962, the Centre advised the states and union territories to merge their existing voluntary organisations into one uniform voluntary force known as Home Guards. The role of Home Guards is to serve as an auxiliary to the police in maintenance of law and order and internal security; help the community in any kind of emergency such as an air raid, fire, cyclone, earthquake, epidemic, etc.; help in maintenance of essential service, promote communal harmony and assist the administration in protecting weaker sections; participate in the socio-economic and welfare activities and perform civil defence duties. Home Guards are of two types-rural and urban. In border states, Border Wing Home Guards battalions have also been raised which serve as an auxiliary to the security forces. The total authorised strength of Home Guards in the country is 5,47,086 against which 4,71,009 Home Guards have so far been raised. The organisation is spread over all the states and union territories except Kerala and Arunachal Pradesh.

Home Guards are raised under the Home Guards Act of the states/union territories. They are recruited from various cross sections of people such as doctors, engineers, lawyers, teachers, professionals, government servants, employees of public and private sectors organisations, college and university students, agricultural and industrial workers, etc., who give their spare time to the organisation for betterment of the community. All citizens of India within the age group of 18-50 are eligible to become members of Home Guards. Normal tenure of membership in Home Guards is three to five years. Fine amenities and facilities given to Home Guards include free uniform and washing allowance, free boarding and lodging during training, cash awards and medals for gallantry, distinguished and meritorious services. A Home Guard whenever called upon for duty/training is paid

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duty/training allowance at prescribed rates to meet out-of-pocket expenses. Members of Home Guards with three years service in the organisation and trained in basic and refresher courses are given preference for recruitment to Group C and D posts in the Central Government as well as in most of the state government services. Home Guards are being increasingly used by the police in maintenance of law and order, prevention of crime, anti-dacoity measures, border patrolling, flood relief, prohibition, fire fighting, elections and social welfare activities. In the event of national emergency, civil defence work is entrusted to the Home Guards.

The Ministry of Home Affairs formulates the policy in respect of roles, target raisings, training, equipping, financing, establishments and other important matters. Expenditure of Home Guards is generally shared between the Central and state government on 50:50 basis. During 1992-93, Rs 24.60 crore has been provided for reimbursement of expenditure to states on raising and training of Home Guards and their deployment for various purposes including that of Lok Sabha/Vidhan Sabha elections.

FIRE SERVICES

Fire Services is part of Directorate General Civil Defence (DGCD). Fire is a state subject and fire services are administered by the states/union territories under the state governments Acts and rules. The Ministry of Home Affairs renders technical advice to states/UTs and Central ministries on fire protection, fire prevention and fire legislation. The National Fire Service College conducts different types of courses for training fire officers. It is the only college of its kind in south-east Asia which trains fire officers of foreign countries as well. A total number of 10,064 fire officers including 71 from abroad have been trained by this college upto June 1992. Fire Adviser and Deputy Fire Adviser visit various states and render necessary advice to them for improving their fire services.

For modernisation of fire services in the states, Ministry of Home Affairs arranges GIC loans through the Ministry of Finance, Insurance Division. During the Seventh Plan period (1985-89), GIC loans of Rs 77.13 crore was sanctioned to the state governments. Similarly GIC loans of Rs 15 crore each during 1990-91, 1991-92 and 1992-93 have been sanctioned for the state governments for modernising the fire services. Fire Service Week is observed every year from 14 April throughout India to commemorate the memorary of the gallant firemen who lost their lives. Standing Fire Advisory Council with Director General Civil Defence as the Chairman, Fire Adviser as Member-Secretary and heads of fire services in the states/UTs, etc., as members, is the highest national body wherefrom recommendations emit regarding policy matters concerning all aspects of the fire services.

PERSONAL LAW

In India, there are people of different religions and faiths. They are governed by different sets of personal laws in respect of matters relating to family affairs *i.e.* marriage, divorce, succession, etc.

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MARRIAGE

Law relating to marriage has been codified as different Acts applicable to people of different religions. These are:

(1) The Converts' Marriage Dissolution Act, 1866;
(2) The Indian Divorce Act, 1969;
(3) The Indian Christian Marriage Act, 1872;
(4) The Kazis Act, 1880;
(5) The Anand Marriage Act, 1909;
(6) The Child Marriage Restraint Act, 1929;
(7) The Parsi Marriage and Divorce Act, 1936;
(8) The Dissolution of Muslim Marriage Act, 1939;
(9) The Special Marriage Act, 1954;
(10) The Hindu Marriage Act, 1955;
(11) The Foreign Marriage Act, 1969 and
(12) The Muslim Women (Protection of Rights on Divorce) Act, 1986.

The Special Marriage Act, 1954 extends to the whole of India, except the State of Jammu and Kashmir and also applies to the citizens of India domiciled in territories to which the Act extends who are in Jammu and Kashmir. Persons governed by this Act can specifically register marriage under the said Act even though they are of different religious faiths. The Act also provides that the marriage celebrated under any other form can also be registered under the Special Marriage Act, if it satisfies the requirements of the Act.

An attempt has been made to codify customary law which is prevalent among Hindus by enacting the Hindu Marriage Act, 1955. The Hindu Marriage Act, 1955, which extends to the whole of India except the State of Jammu and Kashmir, applies also to Hindus domiciled in territories to which the Act extends and who are outside the said territories. It applies to Hindus in any of its forms or developments and also Buddhists, Sikhs, Jains and all those who are not Muslims, Christians, Parsis or Jews by religion. However, the Act does not apply to members of any scheduled tribes unless the Central Government otherwise directs.

Provisions in regard to divorce are contained in Section 13 of the Hindu Marriage Act and Section 27 of the Special Marriage Act. Common ground on which divorce can be sought by a husband or a wife under these Acts fall under broad heads: adultery, desertion, cruelty, incurable unsoundness of mind, venereal disease, leprosy, mutual consent and being not heard of as alive for seven years. As regards the Christian community, provisions relating to marriage and divorce are contained in the Christian Marriage Act, 1872 and the Indian Divorce Act, 1869 respectively. Provisions in regard to divorce applicable to the Christian community are contained in Section 10

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of the Indian Divorce Act. Under that Section, a husband can seek a divorce on the ground that the wife has been guilty of adultery but the wife can seek a divorce on the ground that the husband has become convert to another religion and has gone through a marriage with another woman or has been guilty of (a) incestuous adultery, (b) bigamy with adultery (c) marriage with another woman with adultery, (d) rape, sodomy or bestiality, (e) adultery coupled with such cruelty as without adultery would have entitled her to a divorce, a *mensa etoro* (a system of divorce created by Roman Church euivalent to judicial separation on grounds of adultery, perverse practices, cruelty, heresy and apostasy) and (f) adultery coupled with desertion without reasonable excuse for two years or more.

As regards Muslims, marriages are governed by the Mohammedan Law prevalent in the country. As regards divorce, *i.e.*, *Talaq*, a Muslim wife has much restricted right to dissolve her marriage. Unwritten and traditional law tried to ameliorate her position by permitting her to seek dissolution under the following forms: (a) *Talaq-i-Tafwid*: This is a form of delegated divorce. According to this, husband delegates his right of divorce in a marriage contract which may stipulate that, *inter alia*, on his taking another wife, the first wife has a right to divorce him; (b) *Khula*: This is a dissolution of agreement between the parties to marrige on wife's giving some consideration to husband for her release from marriage tie. Terms are a matter of bargain and usually take form of the wife giving up her *mehr* or portion thereof and (c) *Mubarat:* This is divorce by mutual consent.

Further by the Dissolution of Muslim Marriage Act,1939, a Muslim wife has been given right to dissolve marriage on these grounds: (1) whereabouts of the husband have not been known for a period of four years (2) husband is not maintaining her for a period of two years, (3) imprisonment of husband for a period of seven years or more, (4) failure on the part of husband to perform his marital obligations, without a reasonable cause, for a period of three years, (5) impotency of husband, (6) insanity for a period of two years, (7) suffering from leprosy or virulent venereal disease, (8) marriage took place before she attained the age of 15 years and such marriage not consummated and (9) cruelty.

The Parsi Marriage and Divorce Act, 1936 governs matrimonial relations of Parsis. The word 'Parsi' is defined in the Act as a Parsi Zoroastrian. A Zoroastrian is a person who professes Zoroastrian religion. It has a racial significance. Every marriage as well as divorce under this Act is required to be registered in accordance with the procedure prescribed in the Act. However, failure to fulfil requirements on that behalf does not make marriage invalid. The Act provides for monogamy. By the Parsi Marriage and Divorce (Amendment) Act, 1988 (5 of 1988), scope of certain provisions of the Parsi Marriage and Divorce Act, 1936 have been enlarged so as to bring them in line with the Hindu Marriage Act, 1955.

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As regards matrimonial laws of Jews, there is no codified law in India. Even today, they are governed by their religious laws. Jews do not regard marriage as a civil contract, but as a relation between two persons involving very sacred duties. Marriage can be dissolved through courts on grounds of adultery or cruelty. Marriages are monogamous. As regards Personal Laws relating to the minority communities, it has been the policy of the Government to bring in reforms therein only on the initiative of those communities.

CHILD MARRIAGE

The Child Marriage Restraint Act, 1929 restrains solemnization of child marriages. For the purposes of the said Act, a male person under 21 years of age and a female person under 18 years of age are children. This law which is applicable to all persons in India has made solemnization of a child marriage punishable for a male above 18 years of age contracting such marriage and for any person performing, conducting or directing a child marriage as a punishable offence. But this will not affect the validity of the marriage.

ADOPTION

Although there is no general law of adoption, yet it is permitted by a statute amongst Hindus and by custom amongst a few numerically insignificant categories of persons. Since adoption is legal affiliation of a child, it forms the subject matter of personal law. Muslims, Christians and Parsis have no adoption laws and have to approach court under the Guardians and Wards Act, 1890. Muslims, Christians and Parsis can take child under the said Act only under foster care. Once a child under foster care becomes major, he is free to break away all his connections. Besides, such a child does not have legal right of inheritance. Foreigners, who want to adopt Indian children have to approach court under the aforesaid Act. In case court has given permission for the child to be taken out of the country, adoption according to a foreign law *i.e.*, law applicable to guardian takes place outside the country.

Hindu law relating to adoption has been amended and codified into the Hindu Adoptions and Maintenance Act, 1956 (78 of 1956), under which a male or female Hindu having legal capacity, can take a son or daughter in adoption. In dealing with the question of guardianship of a minor child, as in other spheres of family law, there is no uniform law. Three distinct legal systems are prevalent: Hindu Law, Muslim Law and the Guardians and Wards Act, 1890. A guardian may be a natural guardian, testamentary guardian or a guardian appointed by the court. In deciding the question of guardianship, two distinct things have to be taken into account-person of the minor and his property. Often the same person is not entrusted with both.

The Hindu Minority and Guardianship Act, 1956 (32 of 1956) has codified laws of Hindus relating to minority and guardianship. As in the case of uncodified law, it has upheld the superior right of father. It lays down that a child is a minor till the age of 18 years. Natural guardian for

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both boys and unmarried girls is first the father and after him the mother. Prior right of mother is recognized only to the custody of children below five. In case of illegitimate children, mother has a better claim than the putative father. The Act makes no distinction between the person of the minor and his property and, therefore, guardianship implies control over both. The Act directs that in deciding the question of guardianship, courts must take the welfare of child as the paramount consideration.

Under the Muslim law, the father enjoys a dominant position. It also makes a distinction between guardianship and custody. For guardianship, which has usually reference to guardianship of property, according to *Sunnis*, father is preferred and in his absence his executor. If no executor has been appointed by the father, guardianship passes it on to paternal grandfather. Among *Shias*, difference is that father is regarded as the sole guardian but after his death, it is the right of grandfather to take over responsibility and not that of executor. Both schools, however, agree that father while alive is the sole guardian. Mother is not recognised as a natural guardian even after the death of father.

As regards rights of natural guardian, there is no doubt that father's right extends both to property and person. Even when mother has the custody of minor child, father's general right of supervision and control remains. Father can, however, appoint mother as a testamentary guardian. Thus, though mother may not be recognized as a natural guardian, there is no objection to her being appointed under the father's will.

Muslim law recognises that mother's right to custody of minor children *Hizanat* is an absolute right. Even the father can't deprive her of it. Misconduct is the only condition which can deprive the mother of this right. As regards the age at which the right of mother to custody terminates, *Shia* school holds that mother's right to the *Hizanat* is only during the period of rearing which is over when the child has completed the age of two whereas *Hanfi* school extends the period till the minor son has reached the age of seven. In case of girls, *Shia* laws upholds mother's right till the girl reaches the age of seven and Hanafi school till she attains puberty. The general law relating to guardians and wards is contained in the Guardians and Wards Act, 1890. It applies to all communities. It clearly lays down that father's right is primary and no other person can be appointed unless the father is found unfit. This Act also provides that court must take into consideration the welfare of child while appointing guardian under the Act.

MAINTENANCE

Obligation of the husband to maintain the wife arises out of the status of the marriage. Right to maintenance forms a part of the personal law. Under the Code of Criminal Procedure, 1973 (2 of 1974) right of maintenance extends not only to the wife and dependent children, but also to indigent parents and divorced wives. Claim of the wife, etc., however, depends on the husband having sufficient means. Claim of maintenance for all dependent persons is

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limited to Rs 500 per month. Inclusion of the right of maintenance under the Code of Criminal Procedure has great advantage of making the remedy both speedy and cheaper. However, divorced wives who have received money payable under the customary personal law are not entitled to claim maintenance under the code of Criminal Procedures.

Under Hindu Law, wife has an absolute right to claim maintenance from husband. But she loses her right, if she deviates herself from the path of chastity. Her right to maintenance is codified in the Hindu Adoptions and Maintenance Act, 1956 (78 of 1956). In assessing the amount of maintenance, court takes into account various factors like position and liabilities of the husband. It also judges whether the wife is justified in living apart from husband. Justifiable reasons are spelt on in the Act. Maintenance *pendente lite* (pending the suit) and even expenses of a matrimonial suit will be borne by either husband or wife if the other spouse has no independent income for his or her support. Same principle will also govern payment of permanent maintenance.

Under the Muslim Law, the Muslim Women (Protection of Rights on Divorce) Act, 1986, protects rights of Muslim women who have been divorced by or have obtained divorce from their husbands and provides for matters connected therewith or incidental thereto. This Act *inter alia* provides that a divorced Muslim woman shall be entitled to (a) reasonable and fair provision and maintenance to be made and paid to her within *iddat* period by her former husband; (b) where she herself maintains children born to her before or after her divorce, a reasonable and fair provision and maintenance to be made and paid by her former husband for a period of two years from respective dates of birth of such children; (c) an amount equal to the sum of *mehr* or *dower* agreed to be paid to her at the time of her marriage or at any time thereafter according to the Muslim Law and (d) all property given to her before or at the time of marriage or after her marriage by her relatives or friends or by husband or any relatives of the husband or his friends.

In addition, the Act also provides that where a divorced Muslim woman is unable to maintain herself after the period of *Iddat,* the magistrate shall order directing such of her relatives as would be entitled to inherit her property on her death according to the Muslim Law and to pay such reasonable and fair maintenance to her as he may determine fit and proper, having regard to the needs of the divorced woman, standard of life enjoyed by her during her marriage and means of such relatives and such maintenance shall be payable by such relatives in proportion in which they would inherit her property and at such periods as he may specify in his order.

Where such divorced woman has children, the magistrate shall order only such children to pay maintenance to her, and in the event of any such children being unable to pay such maintenance, he shall order parents of such divorced women to pay maintenance to her.

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In the absence of such relatives or where such relatives are not in a position to maintain her, the magistrate may direct State *Wakf* Board established under Section 9 of the Wakf Act, 1954, functioning in the area in which the women resides, to pay such maintenance as determined by him.

The Parsi Marriage and Divorce Act, 1936 recognizes the right of maintenance both alimony *pendente lite* as well as permanent alimony. Maximum amount that can be decreed by court as alimony during the time a matrimonial suit is pending in court is one-fifth of the husband's net income. In fixing the quantum as permanent maintenance, court will determine what is just, bearing in mind the ability of husband to pay, wife's own assets and conduct of the parties. The order will remain in force as long as wife remains chaste and unmarried.

The Indian Divorce Act, 1869, *inter-alia* governs maintenance rights of a Christian wife. The provisions are the same as those under the Parsi law and the same considerations are applied in granting maintenance, both alimony *pendente lite* as well as permanent maintenance.

SUCCESSION

In 1925, the Indian Succession Act was enacted. The object of the Act was to consolidate the large number of laws which were in existence at that time. Laws governing succession to Muslims and Hindus were excluded from the purview of the Act. While consolidating the laws in respect of succession, two schemes, one relating to succession to property of persons like Indian Christians, Jews and persons married under the Special Marriage Act, 1954 and the other relating to succession rights of Parsis, were adopted.

In the first scheme, for persons other than Parsis, when a person dies intestate leaving a widow and lineal descendants, she would be entitled to a fixed share of one-third of property and lineal descendants shall be entitled to the remaining two-third. This law was amended subsequently with the object of improving rights of widow and it was provided that where a person dies intestate leaving a widow and no lineal descendant and the net value of the estate does not exceed Rs 5,000, she would be entitled to the whole of his property. Where the net value of the estate exceeds Rs 5,000, she is entitled to a charge for the sum of Rs 5,000 with interest at four per cent payment and in the residue, she is entitled to her share. The Act imposes no restriction on the power of a person to will away his property.

Under the second scheme, the Act provides for Parsi Intestate Succession. By the Indian Succession (Amendment) Act, 1991 (51 of 1991) the Act has been amended to provide equal shares for both sons and daughters in their parental properties, irrespective of the fact that it was that of the father or that of the mother's. It also enables the Parsis to bequeath their property to religious or charitable purposes, etc., without any restrictions. In effect the amended law provides that where a Parsi dies intestate leaving a widow or widower and children the property shall be divided so that the widow or widower and each child receive equal shares. Further, where a

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Parsi dies leaving one or both the parents in addition to children or widow or widower and children, the property shall be so divided that the parent or each of the parents shall receive a share equal to half the share of each child.

The law relating to intestate succession among Hindus is codified in the Hindu Succession Act, 1956 (30 of 1956). It extends to the whole of India except the State of Jammu and Kashmir. Remarkable features of the Act are the recognition of the right of women to inherit property of an intestate equally with men and abolition of the life estate of female heirs. A vast majority of Muslims in India follow *Hanafi* doctrines of *Sunni* law. Courts presume that Muslims are governed by Hanafi law unless it is established to the contrary. Though there are many features in common between *Shia* and *Sunni* schools, yet there are differences in some respects. *Sunni* law regards *Koranic* verses of inheritance as an addendum to pre-Islamic customary law and preserves the superior position of male agnates.

Unlike Hindu and Christian law, Muslim law restricts a person's right to testation. A Muslim can bequeath only one-third of his estate. A bequest to a stranger is valid without the consent of heirs if it does not exceed a third of the estate but a bequest to an heir without the consent of other heirs is invalid. Consent of heirs to a bequest must be secured after the succession has opened and any consent given to a bequest during the life time of the testator can be retracted after his death. *Shia* law allows Muslims the freedom of bequest within the disposable third.

LAWS OF PARLIAMENT

During 1992, 44 bills (including three Constitution amendments) were enacted as laws. Scope and purpose of some of the laws enacted during this period are as under:

1. *The Government of National Capital Territory of Delhi Act, 1991 (1 of 1992):* A committee appointed by Government to go into various issues connected with the administration of Delhi recommended in 1989 that Delhi should continue to be a Union Territory but be provided with a Legislative Assembly and Council of Ministers responsible to such Assembly with appropriate powers. It also recommended that arrangements should be incorporated in the Constitution to give the national capital a special status among the union territories. Accordingly, the Constitution (69th Amendment) Act, 1991 was enacted to insert a new Article 239-AA in the Constitution providing for special arrangements in respect of Delhi. To give effect to the other recommendations of the Committee, the Government of National Capital Territory of Delhi Act, 1991 was passed. This Act makes necessary provisions in regard to setting up of an Assembly and a Council of Ministers, short of granting full-fledged statehood to the Union Territory of Delhi.

2. *The Representation of the People (Amendment) Act, 1992. (2 of 1992):* Section 52 of the Representation of People Act, 1951 (43 of 1951) provides

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that if a contesting candidate in an election dies before the commencement of election, the returning officer shall, upon being satisfied of the fact of the death of the candidate, countermand the poll. Due to the rise in poll-related violence in certain parts of the country combined with the phenomenal increase in the number of independent candidates contesting elections, the danger of disruption of the election process due to the murder/death of the candidates, had increased. One of the measures suggested to prevent such disruption of the election process and danger to the lives of independent candidates who were often a soft target to terrorism, was to amend the aforesaid provision so as to restrict the countermanding of election only on the death of a candidate belonging to a recognised political party.

In order to give effect to this proposal, the Representation of the People (Amendment) Ordinance, 1992 (Ordinance 1 of 1992) was promulgated. The Representation of the People Act, 1992 replaced the said Ordinance.

3.*The Public Liability Insurance (Amendment) Act, 1992 (11 of 1992):* This Act amends the Public Liability Insurance Act, 1991 for the purpose of (i) establishing the Environment Relief Fund with additional money collected from the owners having control over establishments handling hazardous substances, providing immediate relief to the victims of industrial accidents caused in handling of hazardous substance and (ii) facilitating the issuance of insurance policy under the principal Act.

The Act replaced the Public Liability Insurance (Amendment) Ordinance, 1992 (Ordinance No. 6 of 1992), promulgated for the purpose.

4. *The Destructive Insects and Pests (Amendment and Validation) Act, 1992 (12 of 1992):* The Destructive Insects and Pests Act, 1914 (2 of 1914) was enacted to prevent the import and transport of any insect, fungus or other pests which may be destructive to crops. The said Act has been amended for the purpose of giving powers to the Central Government to levy and collect fees by notification for making inspection, fumigation, etc., which would enable the Government to strengthen the infrastructure facilities and services of the plant quarantine organisations to prevent the entry of exotic diseases. Besides, certain fees have been levied and collected by issuance of certain notifications. The notifications were challenged and in various court judgements the collection of fees and issue of those notifications were held *ultra vires*. The collection of fees and issuance of said notification in the past was required to be validated. This was done by promulgation of the Ordinance. (Ordinance 4 of 1992).

The Act replaced the Destructive Insects and Pests (Amendment and Validation) Ordinance, 1992 (Ordinance No. 4 of 1992) promulgated for the said purpose.

5. *The Securities and Exchange Board of India, Act, 1992 (15 of 1992):* This Act seeks to vest in the Securities and Exchange Board of India statutory powers to protect the interest of investors in securities and to promote the

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development of, and to regulate the securities market by certain measures envisaged in the Act.

The Act replaced the Securities and Exchange Board of India Ordinance, 1992 (Ordinance No. 5 of 1992).

6. *The Cess and Other Taxes on Minerals (Validation) Act, 1992 (16 of 1992):* Certain State Acts imposing cesses and other taxes on minerals had been struck down by courts including the Supreme Court of India in different cases. As a result of these court judgements, state governments became liable to refund cesses and other taxes collected by them. Since refund was likely to have a serious impact on state revenues of the concerned state governments and having regard to the fact that it is extremely difficult to ensure that the levies collected are refunded to the large number of end users of minerals who have actually borne the burden of such levies. This Act was passed to validate collection of such levies by state governments upto 4 April, 1992.

It replaced the Cess and Other Taxes on Minerals (Validation) Ordinance, 1992 (Ordinance No. 7 of 1992) on the subject.

7. *The National Commission for Minorities Act, 1992. (19 of 1992):* This Act has been enacted to give statutory status to the Minorities Commission. The Commission was set up in January 1978 for providing an institutional arrangement for evaluating the safeguards provided in the Constitution for protection of the minorities and to make recommendations for ensuring implementation of the safeguards and the laws.

8. *The Foreign Trade (Development and Regulation) Act, 1992. (22 of 1992):* This Act provides for the development and regulation of foreign trade by facilitating imports into and augmenting exports from India. It replaces the old Act on the subject *i.e.* the Import and Export (Control) Act, 1947 (18 of 1947).

9. *The Indian Ports (Amendment) Act, 1992. (23 of 1992):* Under clause (6) of Section 3 of the Indian Ports Act, 1908 'ton' is defined in terms of net tonnage of a ship. The present practice of recovering some charges on the basis of the GRT of the vessel (mostly charges leviable under the Major Port Trusts Act, 1963) and some others on NRT (Port dues) is not consistent with the idea. Accordingly, only one base, namely GRT, which is a widely accepted basis for levying charges and also a more reliable index of the vessels size in terms of the space, may be adopted for levying all charge applicable to a vessel. Accordingly Section 3 of the said Act has been amended to change the definition of 'ton' related to gross tonnage of the vessel as defined in the Merchant Shipping (Tonnage Mesurement of the Ship) Rule, 1960.

10. *The National Waterway (Kollam-Kottapuram Stretch of West Coast Canal and Champakara and Udyogmandal Canals) Act, 1992. (25 of 1992):* This Act provides for the declaration of the Kollam-Kottapuram stretch of West Coast Canal and Champakara and Udyogmandal canals to be a national waterway and also to provide for the regulation and development of the

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said stretch and the canals for purpose of shipping and navigation on the said waterway and for matter connected therewith or incidental thereto.

11. *The Capital Issues (Control) Repeal Act, 1992. (26 of 1992):* The Capital Issues (Control) Act, 1947 (29 of 1947) required consent of government for companies to raise capital, whether from its own shareholders through rights issues or from the public. In the light of the policy statement made on 24 July 1991 liberalising control over industry, government's control over issues of capital and on pricing of the capital issues for domestic companies became irrelevant.

In the context of the emerging industrial and financial scenario it was necessary to repeal urgently the said Act through an Ordinance (Ordinance 9 of 1992).

This Act replaced the Capital Issues (Control) Repeal Ordinance 1992 (Ordinance No. 9 of 1992) promulgated for the purpose.

12. *The Special Court (Trial of Offences Relating to Transactions in Securities) Act, 1992. (27 of 1992):* This Act provides for the establishment of a Special Court with a sitting judge of a High Court for speedy trial of offences relating to transactions in securities and disposal of properties attached in the process. It also provides for appointment of one or more custodians for attaching the property of the offenders with a view to prevent diversion of such properties by the offenders. The measure was effected by issuance of an Ordinance (Ordinance 10 of 1992).

This Act replaced the Special Court (Trial of Offences Relating to Transactions in Securities) Ordinance, 1992 (Ordinance No. 10 of 1992), promulgated for the purpose.

13. *The Foreign Exchange Conservation (Travel) Tax Abolition Act, 1992. (28 of 1992):* The Government had been receiving representations from time to time for abolition of, or exemption from, the Foreign Exchange Conservation (Travel) Tax in respect of foreign exchange releases for travel abroad under various schemes like the Returning Indians Foreign Exchange Entitlement Scheme, etc., as it added to the cost of acquisition of foreign exchange significantly, especially after devaluation of the rupee. Further, with the introduction of partial convertibility of the rupee and the liberalised Exchange Rate Management System, foreign exchange for travel abroad required to be purchased at the market rate and the levy of 15 per cent on foreign exchange so obtained made the effective cost of the foreign exchange quite high. It was, therefore, felt that since foreign exchange for foreign travel was being made available at the market rate, there was no need for continuing the Foreign Exchange Conservation (Travel) Tax. The Government, therefore, enacted the Foreign Exchange Conservation (Travel) Tax Abolition Act, 1992 to abolish the said levy with effect from 1 June 1992 with the promulgation of an Ordinance (Ordinance 8 of 1992).

This Act replaced the Foreign Exchange Conservation (Travel) Tax Abolition Ordinance, 1992 (Ordinance No. 8 of 1992), promulgated for the purpose.

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14. *The Rehabilitation Council of India Act, 1992. (34 of 1992):* This Act provides for the Constitution of the Rehabilitation Council of India and vests in it the statutory powers to regulate the training of rehabilitation professionals, the maintenance of a Central Rehabilitation Register and for matters connected therewith or incidental thereto.

15. *The Indo-Tibetan Border Police Force Act, 1992. (35 of 1992):* This Act has been enacted to provide for the constitution and regulation of an armed force of the Union for ensuring the security of the borders of India and to provide for its special needs of efficiency and discipline etc.

16. *The Banking Companies (Acquisition and Transfer of Undertakings) Amendment Act, 1992. (36 of 1992):* This Act amends the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970 (5 of 1970) and the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1980 (40 of 1980) to provide for enhancement of the ceiling on the paid-up capital of the banks from the present level of rupees five hundred crores to rupees one thousand five hundred crores.

17. *The* Representation of the People (Amendment) Act, 1992. (38 of 1992): This Act is sequel to the amendment made in Article 332 of the Constitution by the Constitution (Seventy-Second Amendment) Act, 1992 for the purpose of providing for reservation of seats for the scheduled tribes in the Legislative Assembly in Tripura.

18. *The Central Agricultural University Act, 1992. (40 of 1992):* This Act provide's for the establishment and incorporation of a Central Agricultural University for the north-eastern region on the recommendation of the Committee under the National Agricultural Research Project appointed by the Indian Council of Agricultural Research, for the development of agriculture and for the furtherance of the advancement of learning and prosecution of research in agriculture and allied sciences in that region.

19. *The Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act, 1992. (41 of 1992):* This Act has been enacted to give effect to the International Code for Marketing of Breast Milk Substitutes adopted in May 1981 by the World Health Assembly.

The Code envisages that there shall be no advertising or other form of sales promotion of infant milk substitutes, feeding bottles and teats. The Code, in accordance with this general principle enjoins the health authorities to encourage and protect breast-feeding and also prescribes several measures to control the marketing and promotion of infant milk substitutes, feeding bottles, teats and infant foods.

The Act accordingly prohibits advertisements of infant milk substitutes and feeding bottles and also prescribes measures to ensure that in the marketing of infant milk substitutes no impression is given that feeding of these products is equivalent to, or better than, breast-feeding The provisions relating to labelling and quality control of infant milk substitutes, feeding bottles and infant foods are proposed to be implemented through the concerned departments in the state governments and union territory

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administrations under the overall control of the Ministry of Health and Family Welfare. Contravention of the provisions of the Act is made punishable with imprisonment for a term which may extend to three years, or with fine which may extend to five thousand rupees, or with both. However, the contravention of certain provisions of the Act relating to labelling or quality control of such substitutes or foods is made punishable with imprisonment for a term which shall not be less than six months but which may extend to three years and with fine which shall not be less than two thousand rupees.

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27 Youth Affairs And Sports

UNDER the Constitution of India sports is a State subject and the role of Government is mainly promotional, which is sought to be achieved by laying down guidelines to national sports federations for their improved functioning, rendering financial assistance for organising coaching camps and for participation of the teams in international tournaments, sanctioning grants to state sports councils, setting up of institute for training coaches in different sports disciplines, etc. Many states have introduced sports as compulsory subject in the schools and some of them have started sports schools, sports hostels, etc.

YOUTH SERVICES

NATIONAL YOUTH POLICY

Government of India had formulated a National Youth Policy and tabled it before both the Houses of Parliament during November-December 1988. However, the National Front Government formed during December 1989 announced that a new national youth policy would be formulated. The matter has been examined further and it has now been decided not to formulate any new youth policy and to implement the Policy already adopted in 1988.

The new youth policy is directed towards the achievements of the following objectives: (i) to instil in the youth a deep awareness of, and respect for, the principles and values enshrined in our Constitution and a willingness to further the rule of law, with an abiding commitment to national integration, non-violence, secularism and socialism; (ii) to promote among the youth the awareness of our historical and cultural heritage and imbue them with a sense of pride and national identity, together with a deep commitment towards their preservation, as well as the enrichment of the environment and ecology; (iii) to help develop in the youth qualities of discipline, self-reliance, justice and fair-play, a burning concern for public welfare, sporting spirit and above all, a scientific temper in their modes of thinking and action which, *inter-alia*, will enable them to combat superstition, obscurantism and the numerous social ills that beset the nation; (iv) to provide the youth with maximum access to education which in addition to developing their alround personality, imparts appropriate professional and vocational training, with a view to enabling them to avail of employment and self-employment opportunities towards the aim of *BEKARI HATAO;* and (v) to make the youth aware of international issues and involve them in promoting world peace, understanding and a just international economic order.

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PROMOTION OF ADVENTURE

Promotion of adventure aims at inculcating a spirit of risk-taking, team work, ready and vital response to challenging situations and endurance among the youth. Financial assistance is provided for undertaking activities like mountaineering, trekking, hiking, exploration for collection of data, study of flora and fauna in mountains, forests, deserts and sea, coastal sailing, raft expeditions, cycling, etc. Assistance is also provided for training as well as establishment and development of institutions to facilitate such activities. Indian Mountaineering Foundation, New Delhi and National Adventure Foundation are important institutes in this field.

EXHIBITION FOR YOUTH

The Department promotes conduction of exhibitions on folk dance and songs, paintings, art and crafts, books, sports and developments in other fields such as education, agriculture, industry, etc. These exhibitions, from 1993-94, would be conducted by organisations who will be appointed by the Department.

PROMOTION OF NATIONAL INTEGRATION

Exchange of visits of young persons from one part of the country to the other is organised to help them familiarise with different environments life-styles, social customs, etc., and to inculcate a feeling of basic oneness which would foster among participants a pride of being Indians. Besides, national integration camps for students and non-students youth are arranged through National Yuvak Kendras (NYKs), voluntary agencies and educational institutions. During such camps , they are exposed to inter-regional traditions, customs, literary and cultural heritage and are also made aware of matters of national importance such as freedom movement, eradication of social evils like casteism, untouchability and dowry system. It also helps in inculcating nationally accepted values, namely, democracy, socialism, secularism, etc.

NATIONAL SERVICE SCHEME

The National Service Scheme (NSS) aims at involvement of college and +2 level school students on a voluntary and selective basis in the programmes of social service and national development. Started in 1969, it had an enrolment of about 10.26 lakh students in 1992-93. It is being implemented in all the states and union territories and covers about 5,000 colleges. Emphasis under the scheme has been on programmes of rural and urban slums reconstruction and activities for improvement of conditions of economically and socially weaker sections. Besides undertaking programmes like construction and repair of roads, school buildings, village ponds, tanks and tree plantation, NSS students participate in programmes like: (a) environmental enrichment and conservation; (b) health, family welfare and nutrition. (c) improvement in status of women; (d) social service in welfare institutions; (e) production

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oriented programmes; (f) work during emergencies, (g) education and recreation including adult and pre-school education programmes, and awareness campaign against AIDS and drug-abuse.

NSS students also help local authorities in implementing various relief and rehabilitation programmes. About 5,000 camps were organised by March 1991 to create a positive environment for the success of the International Literacy Year 1991-92. NSS programmes pay special attention to the participation in National Literacy Mission, promotion of family welfare and 20-Point Programme. The programmes also stress on character-building, improvement of environment, national integration, community singing, development of culture, physical fitness and involvement of SC/ST students. There are 16 regional NSS centres for liaison at state and university levels and for coordinating programmes of its different units. State level NSS cells have also been constituted in 13 states . At times of natural calamities, NSS plays a very important role. NSS volunteers did and are still doing a very good job in the areas affected by earthquakes in Uttarkashi district of Uttar Pradesh in 1991.

NATIONAL SERVICE VOLUNTEER SCHEME

The National Service Volunteer Scheme started in 1977-78 with the objective of providing opportunity to youth particularly those who completed their first degree course for full time involvement on a voluntary basis in national building activities for a specific period. It seeks to provide the youth avenues for creative and constructive work suited to their educational background and aptitudes. Volunteers working in the field are attached to NYKs, NSS, Scouts and Guides.

TRAINING OF YOUTH

Financial assistance is given to youth sponsored by states/UTs, NYKs, educational institutions and registered voluntary organisations for training in various fields *e.g.*, animal husbandry, dairy/poultry farming, agriculture, cooperatives, health education and food nutrition, management at local level and propagation of scientific methods for using smokeless *chulhas*, bio-gas plants and other non-conventional energy sources, etc.

FINANCIAL ASSISTANCE

Financial assistance is given to voluntary youth organisation for organising programmes of vocational training to help improve functional capabilities of young persons enabling them to take up full employment, self employment or subsidiary employment. Such assistance is also provided for organising camps for promoting national integration and also taking up social service activities, conducting surveys and research work, holding of seminars, etc. Assistance is also provided for library facility, sports and cultural activities and promotion of fitness by the Department to clubs registered not earlier than two years.

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NATIONAL YOUTH AWARDS

National Youth Awards are given annually by the Department of Youth Affairs and Sports as part of the observance of the National Youth Week to persons in the age group of 15-35 years and voluntary organisations. Recipients of these awards are 50 including two voluntary organisations.

SPECIAL SCHEME FOR TRIBAL YOUTH

This scheme was initiated in 1990-91 in order to give special attention to the tribal youth of this country. Under the scheme, financial assistance is given to various registered voluntary organisations for conducting programmes meant for tribal youth in the field of vocational training, exhibitions and national integration and to update their skills so that they are in a position to seek self-employment.

RAJIV GANDHI NATIONAL INSTITUTE OF YOUTH DEVELOPMENT

Government has approved the setting up of the Rajiv Gandhi National Institute of Youth Development which would function as an apex body for coordinating and monitoring youth related activities throughout the country. It will also be the nodal agency for training to the youth.

YOUTH HOSTELS

Youth hostels are built to promote youth travel by providing cheaper accommodation to youth when on educational tours and excursions to historical and cultural centres. Construction of youth hostels is a joint venture between Central and state governments. While the Centre bears the cost of construction, the state governments provide developed land free of cost with other infrastructure and basic facilities. Thirty seven hostels have been commissioned at Amritsar, Aurangabad, Bhopal, Bhiwani, Dalhousie, Darjeeling, Dimapur, Gandhinagar, Hyderabad, Jaipur, Madras, Mysore, Nainital, Panaji, Punchkula, Pondicherry, Patnitop, Patna, Roopnagar, Naharlagum, Ernakulam, Joshipur, Jodhpur, Kurukshetra, Port Blair, Puri, Thiruvananthapuram, Thanjavur, Tirupati, Shillong, Agra, Imphal, Namchi, Calicut, Hassan, Madurai and at Tura (Meghalaya). Youth hostels at Sangrur, Agartala and Mussoorie are expected to be completed shortly.

Youth hostels at Golaghat, Nagaon and Guwahati, Gurgaon (Haryana), Karwar (Karnataka), Ukhrul (Manipur), Aizwal, Mokokchung (Nagaland), Gopalpur-on-sea, Koraput and Bhubaneswar (Orissa), Patiala, Uttarkashi, Mussoorie, Lucknow and Allahabad, Manali, Visakhapatnam, Bilaspur (Himachal Pradesh), Wynad (Kerala), Bakhaili, Kaikheli, Churulia, Burdwan, Podam Mapusa Thirtha Rameswar, Vijayawada (AP), Trichy and Ranikhet are under different stages of construction.

NEHRU YUVA KENDRA

The scheme of Nehru Yuva Kendra which came into operation in 1972 aims at serving non-students and rural youth to improve their personality and

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employment capability. From a modest beginning of 30 odd NYKs, there are at present 446 NYKs. The Kendras organise activities like youth leadership training programmes, national integration camps and community singing. They also organise social services like work camps, setting-up of bio-gas plants, vocational training centres, youth clubs and coaching camps and tournaments for rural and indigenous sports. They have trained youth in construction, maintenance and operation of bio-gas plants, bee-keeping, para-military training, popularisation and construction of smokless *chulhas* in villages, construction of community assets like roads, community centres, etc. At many places, the scheme of Training Rural Youth for Self-Employment (TRYSEM) is being implemented by NYKs. From 1987, an autonomous body, Nehru Yuva Kendra Sangathan has taken over these kendras to monitor and administer their activities.

SCOUTING AND GUIDING

Scouting and guiding, an international movement, aims at character building of boys and girls. It inculcates in them a spirit of loyality, patriotism and thoughtfulness for others. Bharat Scouts and Guides is the major organisation in the country to promote this activity, while All India Boy Scouts Association works largely among non-student youth.

SPORTS

NATIONAL SPORTS POLICY

The policy resolution is based on a time-bound programme to provide infrastructure of sports and physical education in villages and towns and provide appropriate equipment to sports persons. It enjoins upon the governments to preserve playfields and open space and emphasises the necessity of effective training and competition programme for preparation of national teams to participate in international competitions. The National Sports Policy formulated in 1984, has been reviewed and has been decided to implement this Policy without any change. The Programme of Action thereof has been formulated and tabled in both the Houses of Parliament on 19 August 1992.

DEVELOPMENT OF SPORTS INFRASTRUCTURE

The Centre supplements efforts of state governments, state sports councils, etc., towards improving and creating infrastructural facilities for sports. Grants are given for construction of stadia, swimming pools, gymnasia, sports complexes etc. Mostly financial assistance is given on a sharing basis of 50:50 between the Centre and sponsoring agency, subject to specified limits, through concerned states/UTs. For hilly areas, the Central contribution is 75 per cent subject to a maximum of certain specified ceiling. Scope of this scheme has since been enlarged to assist the state governments in creation of state-level sports complexes and Sports Project Development Areas (SPDA).

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The enhanced ceiling of assistance have been enforced from latter half of 1992-93. New sports infrastructures like skating, velodrome and sports hostels have been made eligible for central assistance. Six state-level sports complexes, one each at Goa, Pune, Bhopal, Jaipur, Madras, and Bhubaneswar, have been approved. Apart from twenty SPDA centres approved earlier, the Department has approved sanction for ten more centres during 1992-93. The entire allocation of Rs 5.24 crore is likely to be utilised during 1992-93. Financial assistance is also given for development of basic sports facilities in rural schools. To begin with, one school will be selected in each block/*taluka* at a place other than district or sub-division headquarters and Central assistance upto Rs one lakh is given for purchase of non-consumable sports equipments and development of playgrounds. During 1992-93, Central assistance of about Rs 94.3 lakh has been sanctioned to 118 schools. The allocation for 1992-93 is Rs one crore.

GRANTS FOR SYNTHETIC TRACKS/ARTIFICIAL SURFACES

The Centre gives grants for laying of synthetic athletic tracks and artificial surfaces for hockey to the state governments limited to 50 per cent of the expenditure subject to a maximum of Rs 50 lakh per project. Synthetic athletic tracks are available at present at the Jawaharlal Nehru Stadium, New Delhi, National Institute of Sports (NIS), Patiala, Salt Lake Stadium, Calcutta, Malabar Hills, Bombay and the University Stadium, Thiruvananthapuram. Such tracks are under installation at the Haryana Agricultural University, Hissar; Bhubaneswar, NIS Bangalore, Gandhinagar, Ludhiana, Pune, Madras, and Lucknow. Artificial hockey surfaces are available at the National Stadium and Shivaji Stadium, New Delhi, NIS, Patiala, Bangalore, Calcutta and Gandhinagar; Sports College, Lucknow, Amritsar, Pimpri, Bombay, Ranchi, Chandigarh and Railway Stadium, Gwalior. This facility is under installation at Ranchi, Jalandhar, Bhopal, Rourkela, Srinagar, Varanasi, Rampur and Hyderabad.

PROMOTION OF SPORTS IN THE UNIVERSITY SECTOR

University Grants Commission (UGC), Association of Indian Universities (AIU) and Netaji Subhas National Institute of Sports (NSNIS) promote sports and games in the university sector. UGC provides financial assistance for development of sports infrastructure in colleges and universities, while AIU oversees organisation of coaching camps and sports competitions among college and university students and preparation of Indian university contingents for international competitions. Three hundred scholarships are awarded through NSNIS to outstanding college and university sportspersons. Scholarships are also renewed in subsequent years subject to holders maintaining or improving their performances. The scheme has been revised which includes enhancement of ceiling of assistance for creation of sports infrastructure. Covering new infrastructure and the amount of scholarship enhanced to Rs 6,000 from Rs 3,600 per annum each. During 1992-93 entire allocation of Rs 2.50 crore has been fully utilised.

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GRANTS TO NATIONAL SPORTS FEDERATIONS

National sports federations/associations are given financial assistance for sending their teams abroad for international meets, organising international tournaments in India, coaching camps for national and internatinal competition organising national championships for seniors, juniors and sub-juniors and also for meeting the salaries of paid joint and assistant secretaries and purchasing of sports equipments.

PROMOTION OF WOMEN'S SPORTS

National Sports Festival for Women first organised in 1975 has now become a significant national sports event. The national level tournament is preceded by competitions conducted at states/UTs, district and block levels. The financial assistance is given at a rate of Rs 1,000 per block, Rs 3,000 per division and Rs 10,000 per state level tournament for some states and Rs 5,000 for others.

SCHOLARSHIPS ABROAD FOR SPECIALISTS AND OUTSTANDING SPORTSPERSONS

Scholarships are given to (a) specialists for training abroad in sports/adventure programmes and to (b) active outstanding sportspersons for specialised coaching/training abroad.

ARJUNA AWARDS

Arjuna Awards were instituted in 1961 to recognise talented sports persons distinguishing themselves in different sports disciplines. Each Arjuna Award winner is entitled to receive a bronze status and a scroll of honour, besides a sum of Rs 20,000 alongwith a monogram, a blazer and a tie. So far, 419 sportspersons have been given these awards.

DRONACHARYA AWARDS

Dronacharya Awards instituted in 1985 are given to coaches who have trained sportspersons or teams making outstanding achievements in the year for which the award is given and consistently have very good achievements to their credit for three preceding years. It comprises a plaque, a scroll, a blazer and a tie in addition to a cash prize of Rs 40,000. So far ten persons have been honoured with the award.

SPORTS TALENT SEARCH SCHOLARSHIP

This scheme seeks to provide facilities to young boys and girls at school level to develop their aptitude for sports and to provide them with nutritious diet. There are two types of scholarship—national level at the rate of Rs 4,500 per month and state level at the rate of Rs 3,600 per annum. While 100 state level scholarships for each state and 40 scholarships for each UT are given, there is no upper limit for national level scholarships. These are awarded on the

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basis of sports competitions at the national and state levels. The scholarships are also renewed for the subsequent year provided the holder improves his performances.

PROMOTIONAL INCENTIVES

Direct incentives are provided for promotion of sports in two streams *i.e.* (a) cash prizes of Rs 10,000 each are given to schools winning inter-school district tournaments in athletics, hockey, basketball, volleyball, *Kabaddi* and *Kho-Kho* (for both boys and girls) and football (for boys only); and (b) special awards are given to sportspersons winning medals in prestigious international sports events. Awards range from Rs 50,000 to Rs Five lakh. Rajiv Gandhi Khel Ratna Award has also been introduced from 1992 for spectacular and most outstanding performance in the field of sports.

NATIONAL WELFARE FUND

National Welfare Fund for sportspersons was constituted by the Government of India in 1982 for giving financial assistance to the outstanding sportspersons who are no longer active in sports and are now forced to live in indigent circumstances.

TRAVEL GRANTS

Government provides international passage cost on international route to sports scholars, research workers and coaches for specialised training and research abroad. Its aim is to elevate the status of knowledge of sports in the country for supporting the athletes with latest know-how.

EXCHANGE OF SPORTS AND PHYSICAL EDUCATION TEAMS/EXPERTS

Under this scheme there is a provision for exchange of Physical education teams/experts with foreign countries by way of bilateral agreement through cultural exchange programmes/sports protocols.

INTERNATIONAL COOPERATION

During 1991-92, the Department of Youth Affairs and Sports had international cooperation in the field of physical education, sports and youth affairs with six countries through sports protocol. Apart from above, India has cultural exchange programme (CEP) in the field of sports with 33 countries (22 continuing CEPs and 11 new CEPs). During 1991-92 the following youth exchanges took place: (i) a two-member French delegation visited India under Indo-French CEP regarding construction of artificial rock-climbing wall by IMF in May-June 1991; (ii) Indian delegation participated in International Youth Philatelic Exhibition held at Dusseldorf (Germany) from 20-24 July 1991; (iii) A three-member Indian delegation attended the 14th International Diabetes Federation in Washington (USA) in July-August 1991; (iv) a 10 member Indian youth delegation visited Japan under South Asian

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Youth Invitation Programme organised by the Government of Japan from 6-20 October 1991; (v) a 30-member teachers delegation from various parts of the country visited Japan under Friendship Programme for 21st Century organised by Government of Japan from 16 October to 12 November 1991.

UNITED NATIONS VOLUNTEER SCHEME

United Nations Volunteer (UNV) is a scheme of UNDP operating throughout the world. It seeks to accelerate the development of under-developed countries by providing skilled manpower of developed/developing countries at less costs. It was established in 1971 and India has been participating in it since its inception. Starting with two volunteers (specialists) in 1972, the number of Indian Volunteers serving abroad at present is 131. Another 363 candidates are on the roster of UNDP awaiting assignment. This includes 54 volunteers in Cambodia for election duty (30) and reconstruction/development activities. India also contributes financially to the Special Volunteer Fund of UNDP and its present annual contribution is US $ 15,000. One specialist volunteer from Nepal is working as a programme specialist for UNV activities in India and another six specialists in the field of HIV/AIDS are expected to come.

The scheme also envisages posting of social service volunteers among the countries of Asia and the Pacific region to work at grass-root levels to assist in the local self-help efforts of rural areas and urban slums in participating countries. This is known as UNV (DDS) (Domestic Development Service) Scheme. At present 14 Indian DDS Volunteers are working in Nepal, Maldives, Indonesia, etc., and 10 volunteers from such countries are working in India in Nehru Yuva Kendras, voluntary organisations, etc.

Fifth December is celebrated as the International Volunteers Day. Special programmes are organised to spread awareness about the UNV Scheme and to inculcate the spirit of volunteerism. Those possessing specialist qualification and experience interested in being considered for assignment as UN Voluntneers should submit their applications on prescribed proforma, (obtainable from the Department of Youth Affairs and Sports, Shastri Bhawan, New Delhi and from the UNDP office) to the Department for forwarding to UNDP, if considered suitable.

SPORTS AUTHORITY OF INDIA

The Sports Authority of India which was established by the Government of India in January 1984 as a registered society primarily to ensure effective maintenance and optimum utilisation of the various sports infrastructure that were built in Delhi during Asiad, 1982 is now the nodal agency in the country for broadbasing sports and for training of sportspersons to achieve excellence in national and international sports arena. In order to have only one government agency at the apex for the promotion of sports, the SNIPES (Society for National Institutes of Physical Education and Sports) was merged with SAI

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with effect from 1 May 1987. Consequently NSNIS Patiala and its allied Centres at Bangalore, Calcutta and Gandhinagar and Lakshmibai National Colleges of Physical Education at Gwalior and at Thiruvananthapuram came under the Sports Authority of India.

It has now six regional centres, at Bangalore, Gandhinagar, Calcutta, Chandigarh, Delhi and Imphal. At Bangalore it has been developed as a Centre of Excellence in collaboration with Russia and other erstwhile republics of USSR and USA. SAI has two sub-centres at Guwahati under the North Eastern Centre and at Aurangabad under the Western Centre. Each regional centre is under the charge of a Regional Director and has an Advisory Committee, under the Chairmanship of Union Minister of State for Youth Affairs and Sports and Vice-Chairman of the governing body of SAI.

The Sports Authority of India has four functional wings with specific areas of action: (i) academic wing for training of sportspersons in coaching and research and development in sports. It encompasses SAI NSNIS Patiala; (ii) academic wing for physical education and research and development in physical education which encompasses LNCPE at Gwalior and Thiruvananthapuram; (iii) operational wing for general sports promotion and spotting and nurturing of young talent and (iv) TAMS (Training of Elite Athletes and Management Support) Wing for long term training of elite sportspersons. SAI NSNIS, Patiala is the only institute of its kind in the country for training of sportspersons to become coaches. Besides Diploma Course in coaching, the institute offers Diploma in Sports Medicine, Master Degree in Sports and certificate and refresher courses also. It has so far produced 10,446 coaches in various sports disciplines. SAI LNCPE Thiruvananthapuram offers Degree Course in Physical Education (BPE). A total number of 158 students have been graduated from this College till the last session. SAI LNCPE Gwalior, apart from research and development in physical education, also offers Degree, Master's, M.Phil and Doctorate Courses in physical education. A total number of 3,604 students have passed various courses from the College so far.

The Sports Authority of India has a number of sports schemes/programmes under implementation. Under the spotting and nurturing of talent project, SAI has National Sports Talent Contest (NSTC), Sports Project Development Area (SPDA) and Boys Sports Companies in the Army (BSCA) scheme to scout talent in the age group of 8-14 years to provide them systematic training with scientific back up. The scheme to extend the talent scouting to *Kendriya Vidyalayas, Novodya Vidyalayas,* large size residential schools and public sector townships has also been approved recently. The response is quite encouraging. SAI also has scheme of promotion of sports in special areas, national coaching scheme, *Bharatiyam* and Sports Hostel Scheme. In addition to these SAI implement a number of Central schemes *viz,* sports talent search scholarships, promotion of sports amongst women, Dr B.R. Ambedkar Rural Sports tournaments, prize money and north–east sports festival.

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SAI has a number of Sports Protocols/CEPs under implementation with various countries relating to exchange of sportspersons, coaches/experts, sports literature, etc., in mutually agreed areas.

Recently, setting up of regional and national academics for different sports disciplines has been taken up with a number of public and private sector undertakings.

The various schemes/programmes formulated by the SAI has had a significant impact in bringing about some sports consciousness in the country.

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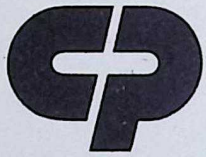

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28 India And The World

INDIA'S main foreign policy objectives are based on peaceful co-existence, self-reliance and co-operation, non-alignment, support for de-colonisation, disarmament, restructuring of the inequitous International Economic Order and the global fight against racialism. India's first Prime Minister, Jawaharlal Nehru, laid down the basic parameters of India's foreign policy and his unique contribution was the concept of non-alignment. The fundamental aim was to preserve India's freedom of option and decision-making in an autonomous way, in a world bristling with animosities and block antagonism. Consistent with our traditional values, Nehru ceaselessly promoted the universal cause of disarmament, racial equality, international cooperation for economic development and the peaceful resolution of disputes and gave India a conceptual framework which was based on cooperative and peaceful co-existence and non-violence which we continue to adopt in evolving our foreign policy. The recent momentous political, social and economic developments throughout the world have brought about radical transformation in international relations and had far-reaching implications for India's foreign policy. Basic considerations which governed the structuring of our foreign policy and its implementation are: preservation of India's national identity as a plural, democratic and secular society, India's territorial integrity, and well-being of our people. This last objective involved refashioning of our domestic economic arrangements and its appropriate projections abroad so that necessary external inputs could be ensured for sustaining developmental activities and modernisation of our economy. While there were growing trends of democracy in the international community and a greater demand for economic fairplay and respect for human rights, there was also an upsurge of centrifugal ethno-religious forces, secessionist movements, assertion of sub-national identities threatening composite pluralistic societies. Our foreign policy had to and has to cope with these challenges while ensuring our abiding interests in maintaining our national identity and ensuring our national survival.

COLONIAL ISSUES

Having witnessed some of the worst aspects of colonial domination, India naturally gave priority to anticolonial and anti-racial issues. The country extended its friendship and support to the people of Indonesia in their struggle against colonial rule. At India's initiative, a 18-member conference was held in New Delhi in January 1949 which called upon the United Nations

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to take immediate steps towards independence of Indonesia. This was the first concrete mainfestation of Asian solidarity and also of India's support to national liberation movements. Since then, India has been opposing all forms of colonial and racial oppressions and supporting peoples' struggle for independence all over the world. The scourge of colonialism and racialism has virtually come to an end with the independence of Namibia and promising steps being taken in South Africa for the dismantling of apartheid.

ROLE IN FIFTIES

In 1950s the world faced its most serious crisis after Second World War. India refused to take sides in the Korean war and maintained her indepedent policy while calling for a peaceful settelment. This constructive approach received recognition when India was chosen as the Chairman of the United Nations Repatriation Commission to deal with the issue of prisoners of war. Similarly, throughout the Indo-China crisis in the fifties, India, though not a party to the negotiations at the First Geneva Conference, actively worked behind the scenes and influenced the final decisions taken at that conference about the future of Vietnam, Cambodia and Laos. India also served as the chairman of three international commissions for nearly two decades. In 1956, when the Suez crisis threatened international peace and security following British French-Israeli invasion of Egypt, India condemned this action and mobilised support at the United Nations and elsewhere to put an end to the intervention. India's principled support contributed to withdrawal of foreign troops and recognition of Egypt's sovereignty over the Suez Canal. India sent troops for the United Nations Emergency Force in the Sinai Peninsula. Similarly, Indian troops served with distinction in the UN Force which helped preserve the unity and territorial integrity of Congo. Indian diplomats and military officers also served with the UN Peace-Keeping Force in Lebanon and Cyprus. Indian forces are participating in UN peace-keeping operations in Yugoslavia, Somalia, Cambodia and Mozambique.

COMMONWEALTH

India played a key role in the transformation of the British Commonwealth into the present Commonwealth. It also took active interest in promoting stability and progress in the newly independent countries through direct economic assistance and through organisations like the Commonwealth. India's initiatives helped in the subsequent evolution of the Colombo Plan which played a significant role in the economic development of the region. The largest-ever meeting of the Commonwealth Heads of Government was held for the first time in New Delhi from 23 to 29 November 1983.India's stand at the Commonwealth Heads of Government Conference at Nassau from 16 to 22 November 1985, ultimately led to the adoption of the Declaration of World Order. At the Commonwealth Heads of Government Meeting (CHOGM) in Vancouver, Canada in October 1987, India played a major role in rallying opinion for continuing mandatory sanctions against racist South

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Africa and providing international assistance to the Frontline States. The Summit formed an eight-member Foreign Ministers' Committee with India as a member. At the CHOGM held in Kuala Lumpur in October 1989, India welcomed Pakistan's re-entry into the Commonwealth. It also endorsed India's proposal for the Planet Protection Fund.

The sixth meeting of the Commonwealth Committee of Foreign Ministers on Southern Africa (CCFMSA) was held in New Delhi on 13 and 14 September 1991. The meeting recommended to the Commonwealth Heads of Government the need to lift people to people related sanctions in view of the substantial progress that had been made in that country. However, it was decided that trade and financial sanctions and arms embargo would continue till a non-racial and post-apartheid new South African government was established with full democratic control. The CHOGM held in Harare in October 1991, adopted the Harare Declaration which identified priorities of the Commonwealth in 1990s and beyond. Apart from reaffirming the traditional emphasis on such issues as the struggle against apartheid and cooperation for development, the Declaration stressed the importance of democratic institutions, human rights and the rule of law. On South Africa it endorsed the recommendations of the New Delhi meeting of the CCFMSA for a programme management and phased easing of sanctions. India continued to actively participate in all Commonwealth meetings held during the year. India have also participated in the Commonwealth Observer Group constituted to monitor the violence in South Africa.

NON-ALIGNMENT

With the coming to an end of colonialism India's policy of non-alignment gained large scale acceptance. The principles of the non-alignment were defined in the Bandung(Indonesia) Declaration of 1955 and were reiterated in the Brioni (Yugoslavia) Declaration of 1956 issued by Jawaharlal Nehru, Josip Broz Tito and Gemal Abdil Nasser. The first Non-aligned Conference was held at Belgrade in 1961 in which 25 countries participated. The Belgrade Declaration on Peace evoked global response. The basic thrust of the movement is in favour of peace, disarmament, development and independence. India was elected as the Chairperson of the movement and hosted the Non-Aligned Summit in New Delhi in March 1983. Even after handing over its Chairmanship to Zimbabwe in September 1986, India sustained her efforts to create consensus within the Non-Aligned Movement (NAM) on major international issues. The Eighth Summit held at Harare in September 1985 established the Action for Resisting Invasion, Colonialism and Apartheid (AFRICA) Fund with India as the Chairman with the objectives of assisting Frontline States and liberation movements in Southern Africa to withstand South Africa's acts of aggression and economic sabotage. At the Ninth Non-Aligned Summit held in Belgrade in September 1989, India called upon fellow members to fight the economic domination of the North in order to ensure the complete success of NAM. India also proposed the establishment

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of a Planet Protection Fund under the aegis of the United Nations for global cooperation to protect the environment. The Tenth Ministerial Conference of Non-aligned countries, held in Accra from 2 to 7 September 1991 was a landmark event as the movement has completed 30 years since its inception. It considered issues relating to international security, disarmament, external aid, North-South and South-South cooperation, the situation in South Africa, human rights, drug abuse, environment and other emerging issues on the international agenda.

Prime Minister, Shri P.V Narasimha Rao, led the Indian delegation to the Tenth NAM Summit held in Jakarta (Indonesia) from 1 to 6 September 1992. It was attended by 97 of the 108 NAM members. Brunei, Philippines and Uzbekistan were admitted as Observers and Bosnia-Herzegovina and Slovenia as Guests. Myanmar was readmitted as a full member, while consideration of the applications of Macedonia and Kyrghyzstan for guests status were deferred. The Jakarta Summit reiterated that the Movement retained a continuing relevance that essentially stems from the desire of its members to preserve their freedom of action and independence of judgement in the new international environment. At the same time, the Movement prioritised its future concerns recognising that NAM would need to address its unfinished agenda which included such major issues of global concern as the need to pursue nuclear disarmamnet within a timebound programme and the elimination of the last vestiges of colonialism. The Jakarta Summit also renewed the commitment to eradicate poverty, illiteracy and under-development, and called for accelerated development of the South based on equitable distribution, growth and stability. The Summit renewed the call for a meaningful North-South dialogue.

SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION

South Asian Association for Regional Cooperation (SAARC) has made notable progress in different areas of regional cooperation. Since its inception in 1985, it has gradually encompassed many areas for cooperation, such as agriculture, telecommunications, health, education, meteorology, women's issues, culture, etc. Lately, cooperation in the field of environment has also been introduced into the SAARC forum through establishment of a Technical Committee on Environment. This Committee has also within its purview the subject of greenhouse effect and its impact on the region. In order to pose a common stand on environmental issues during the time of World Summit on Environment in Rio in June 1992, a SAARC Ministerial Meeting was held in Delhi in April 1992. It discussed environmental problems faced by SAARC countries and adopted a Joint Communique reflecting the consensus of views of the SAARC countries on Environment and Development.

SAARC has also begun to explore the possibilities of cooperation in core economic areas, such as, trade, manufactures and services. Under a decision taken by a SAARC group of planners in 1987, a regional study on trade, manufactures and services (TMS) was compiled on the basis of

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Country Studies prepared by each member State. The study finalised in June 1991 contains recommendations aimed at expanding economic cooperation within the region through rational exploitation of geographical contiguities and resource complementarities.

A high-level Committee on Economic Cooperation (CEC) met at Kathmandu, in September 1991, with a mandate to (a) examine the recommendations, (b) identify areas for immediate implementation and (c) monitor their implementation. The Sixth SAARC Summit which approved the CEC recommendations made particular mention of the need to establish an Inter-Governmental Group (IGG) to seek agreement on an institutional framework under which specific measures for trade liberalisation among SAARC member states could be furthered. Accordingly, in the course of 1992, the IGG drafted a framework agreement for a SAARC Preferential Trading Arrangement (SAPTA) to be set up within three years. The recently concluded Twelfth Session of Council of Ministers (December 1992), while approving the report of the CEC, agreed that the draft Agreement be considered further and finalised before the Seventh SAARC Summit for signature at the ministerial level.

A related development is the establishment of a fund for Identification and Development of Regional Projects which is to be used for identifying regional projects and developing them from pre-feasibility stage to detailed project report stage. A panel of experts has been appointed by the SAARC countries to undertake a pre-feasibility study for the establishment of a South Asian Development Fund (SADF). It has been decided by the SAARC Council of Ministers that an IGG of SADF, be established to look into the operational modalities of the proposed fund.

Another welcome development under SAARC is the establishment of a South Asian Commission on Poverty Alleviation. This Commission has completed its study. In order to promote people-to-people contact, a SAARC Visa Exemption Endorsement Facility has been provided to Supreme Court judges, members of national Parliaments, heads of national academic institutions, their spouses and dependent children from 1 March 1992. This facility allows them visa-free travel within the SAARC region. As a decision of the Male Summit in 1990, the year 1993 is being observed as the 'SAARC Year of Disabled Persons'. A plan of action for the SAARC Year of Disabled Persons prepared by Pakistan was endorsed by the Twelfth Council of Ministers. The plan which contains long and short-term strategies for implementation at both the national and regional levels, is awaiting endorsement by the seventh SAARC Summit convened in Dhaka.

SOUTH ASIA

NEPAL

The traditionally close and cordial relations between India and Nepal were further deepened and strengthened through exchange of a number of high level visits. Prime Minister, Shri Narasimha Rao, paid an official goodwill visit

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to Nepal from 19 to 21 October 1992 at the invitation of the Prime Minister of Nepal. A Joint Communique was signed during the visit enlisting various areas of cooperation between the two countries. In the trade sector in particular, substantial improvements have been made and transit of Nepalese goods has been further facilitated. India has agreed to enhance the revolving stand-by credit facility extended to Nepal from the level of Indian Rs 35 crore to Rs 50 crore. A timeframe for investigations, preparation of project reports and other works for water resources cooperation on the Karnali-Panchesh-war, Rapti Koshi, Budhi Gandaki, Kamala and Bagmati projects was agreed upon. The B P Koirala Nepal-India Foundation was jointly inaugurated by the two Prime Ministers during the visit. The Foundation would provide an institutional framework for promoting academic, cultural and technical ex-changes between India and Nepal. An Indo-Nepal High Level Task Force has been set up to monitor and review the implementation of Indian aid projects in Nepal. A six member Parliamentary delegation led by Shri Shivraj Patil, Speaker of Lok Sabha, visited Nepal from 15 to 19 November 1992 to participate in the SAARC Speakers' Conference. Shri Patil extended an invitation to Members of Parliament from Nepal to attend training camps organized by India's Bureau of Parliamentary Studies.

BHUTAN

His Majesty Jigme Singye Wangchuck paid a State visit to India in January 1993 and held discussions with President, Prime Minister and other senior Ministers of the Government of India on issues of mutual interest. Other visits from Bhutan included the visit of the Bhutanese Planning Minister, Minister for Trade and Industry and Finance Minister. The Foreign Secretary and Secretary (Water Resources) also visited Bhutan. These visits helped to further consolidate the close relations between India and Bhutan. The close economic cooperation has been further intensified during Bhutan's Seventh Five Year Plan (1992-97) which was launched in July 1992. Several major projects are expected to be taken up by India in Bhutan during this Plan period including a large cement plant at Nganglam, an airport terminal building at Paro, Kurichu Hydel Project in eastern Bhutan, hospitals, roads and bridges, transmission lines and sub-stations, etc. The long association of India in the development of Bhutan's power sector was further strengthened in January 1993 with the signing of a Memorandum of Understanding between India and Bhutan for taking up the detailed project report for the Sankosh Hydel Project in Bhutan.

BANGLADESH

The traditionally warm and friendly ties between India and Bangladesh were further strengthened since the coming to power of a democratically elected Government in Dhaka in 1991. The Bangladesh Foreign Minister paid an official visit to India in August 1991, which was the first political level contact on both sides since the taking over of office by the new Governments both in

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India and Bangladesh. Wide ranging discussions were held on bilateral issues and both sides agreed to further strengthen their relations by removing immediately some of the irritants through dialogue and by adopting a fresh approach for enhancing economic cooperation. The Rs 30 crore Credit Agreement and an Avoidance of Double Taxation Agreement were also signed during the visit. Bilateral relations gained further momentum with the successful visit of the Prime Minister of Bangladesh to India in May 1992. The visit of the democratically elected Prime Minister of Bangladesh, was the first State visit to a SAARC country since her assumption of power in 1991. The two Prime Ministers held comprehensive and wide ranging discussions covering international, regional and bilateral issues. The following three agreements were signed during the visit: (a) A Memorandum of Understanding on Exchange of Plots for the construction of Chancery and residential building; (b) A Cultural and Academic Exchange Agreement and (c) Exchange of Instruments of Ratification for the Agreement on the Avoidance of Double Taxation. The level of interaction with the democratic Government in Dhaka continued to remain relatively high despite differences of opinion on some important bilateral issues. The Tin Bigha issue was satisfactorily resolved with the corridor finally leased to Bangladesh and opened for use by Bangladeshi passengers and vehicular traffic on 26 June 1992.

The Indo-Bangladesh relations received some setbacks since September 1992 following controversies with regard to the issue of illegal immigration from Bangladesh and also due to the violent reactions in Bangladesh in the wake of the Ayodhya incident on 6 December 1992. Normal deportation of Bangladesh nationals illegally living in India was disrupted since 17 September 1992 as Bangladesh immigration authorities refused to accept any further consignment of deportees. India has emphasised on the need for a dialogue to resolve the issue in a cooperative manner. India has also expressed concern to Bangladesh about the magnitude of the problem created by the illegal immigration from Bangladesh. The initial reaction of the Government of Bangladesh to the Ayodhya incident was of restraint. However, it soon became more critical and bold. Indian diplomatic premises came under attack by an agitated mob and the High Commission library and Indian Airlines office in Dhaka were set on fire. In widespread violence all over the country, scores of Hindu temples, shops and houses were attacked and damaged. Bangladesh Parliament held a lengthy debate from 17 to 20 January 1993 on the Ayodhya issue and passed a resolution condemning the demolition of the Babri mosque at the conclusion of the debate. This attracted a strong and critical response from the Government of India.

SRI LANKA

India continues to support the legitimate aspirations of the Tamils in Sri Lanka within the framework of the unity, territorial integrity and sovereignty of Sri Lanka. It is hoped that a fair and equitable settlement would be achieved through the efforts of the Sri Lankan people themselves and by involving all

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those parties which have eschewed the path of violence. The President of Sri Lanka paid a State visit to India in his capacity as the Chairman of the Sixth SAARC Summit, in October 1992, and later came on a private visit in January 1993. These visits have imparted further stability and cordiality to the bilateral relations with Sri Lanka. Cooperation between the two countries is going apace under the auspices of Indo-Sri Lanka Joint Commission at the level of Foreign Ministers, which had its first meeting in Delhi in January 1992. The second meeting of the Sub-Commission on Trade, Investment and Finance was held in Delhi in September 1992, followed by the first meeting of the Sub-Commission on Science and Technology in January 1993. The process of voluntary return of Sri Lankan regugees to their country is continuing, with over 29,000 refugees having returned to Sri Lanka. During Sri Lankan President's visit to India in October 1992, the two sides expressed satisfaction at the ongoing repatriation and agreed to continue cooperation for the early return of these refugees from India.

MYANMAR

Nearly three years after the holding of general elections in Myanmar in May 1990, power remains to be transferred to democratic government. Nevertheless, the new SLORC leadership which took over control of the administration in April 1992, has been attempting to introduce certain changes whereby some political prisoners have been released and a National Convention for the formulation of the basic tenets of a new Constitution, was held in Yangon on 9 January 1993. Ms Aung San Suu Kyi, Gen Tin Oo and other popular leaders, however, continue to languish in prison and the prospects of a genuine and complete transition to democracy appear to be bleak. While we have been attempting with some degree of success, to re-establish normal working relations with this important neighbour, we have also continued to lend our support to pro-democracy elements in Myanmar, through measures such as supporting a recent Resolution in UN General Assembly on Myanmar, calling for the restoration of human, fundamental and democratic rights to the people of Myanmar.

MALDIVES

The existing close and friendly relations between India and Maldives were further consolidated and reinforced by regular consultations and meetings at various levels. The second session of Indo-Maldives Joint Commission for Economic and Technical Cooperation was held in New Delhi on 2 and 3 March 1992. A Cultural Exchange Programme between the two countries for the year 1992-94 was signed in Male on 24 December 1992.

PAKISTAN

India's relations with Pakistan continued to be under stress and strain on account of its undiminished support to terrorism in Punjab and Jammu and Kashimir and its tendency to interfere in the internal affairs of India. India

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has in the interest of peace and security of the region and in accordance with the Shimla Agreement pursued the path of bilateral dialogue with Pakistan in an attempt to create an atmosphere of mutual trust and confidence. Pursuant to the confidence building measures package proposed by India on 28 May 1990, six rounds of Foreign Secretary level talks have been held. Some progress has been made: (i) agreement on prevention of air space violation by military aircraft and agreement on advance notice of military exercises, manoeuvres and troop movements have been signed; (ii) list of nuclear installations have been exchanged by India and Pakistan in 1992 and 1993 in accordance with the agreement on the prohibition of attack against nuclear installations and facilities (signed in December 1989); (iii) code of conduct on the treatment of diplomatic/consular personnel has been signed; (iv) a joint declaration on the complete prohibition of chemical weapons was issued in August 1992. India and Pakistan have agreed to discuss a joint declaration on biological weapons along the line of joint declaration on chemical weapsons; (v) since December 1990, India and Pakistan have also been able to resume discussions on Siachen, demarcation of boundary in Sir Creek and Tulbal.

Prime Minister, Shri P.V. Narasimha Rao, and former Pakistan Prime Minister Mr. Nawaz Sharif, have met on five occasions—Colombo (December 1991), Davos (February 1992), Rio (June 1992), Jakarta (September 1992) and Harare (October 1992), when the need to reduce tension and resolve issues bilaterally and peacefully was reiterated.

Following developments in Ayodhya, the Government of Pakistan took a series of steps which constituted an attempt to interfere in India's internal affairs. Vituperative statements by leaders of Pakistan, including at the highest level, resolutions passed by Pakistan National Assembly and Pakistan Senate on the demolition of Babri masjid and the decision of Government of Pakistan to officially call for a nationwide strike on 8 December 1992 to mark a "day of mourning", vitiated further the billateral atmosphere. Through a unilateral decision, Pakistan on 29 December 1992 asked India to reduce the strength of the Consulate General in Karachi to 20 (4 diplomats and 16 staff members). Through a Travel Advisory issued in December 1992, Pakistan has advised its citizens not to travel to India. Simultaneously, Pakistan issues visas to Indian nationals after considerable delay. These attempts to curtail people-to-people contact do not help in bilateral relations. India has urged Pakistan to abandon its negative approach and join in sincere efforts to have a meaningful dialogue.

AFGHANISTAN

India's relations with Afghanistan are based on traditional ties of common history and culture. There were regular high level exchanges during the year. President of Afghanistan, Prof Burhanuddin Rabbani, made a stop-over in New Delhi on 30 August 1992. The Afghan Minister of State for Foreign Affairs, Mr Najibullah Laffraei, visited Delhi during November 1992. India maintained useful exchanges with the new leadership in Afghanistan. India

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has always stood for a sovereign, independent, non-aligned and united Afghanistan. India offered rupees five crore worth of assistance through the Office of UN Coordinators for Afghan Refugee Rehabilitation and an equal amount bilaterally during 1992. India supplied relief items worth Rs 1.5 crore to Afghanistan through UNCOA. As a part of its bilateral commitment, Indian relief supplies worth Rs 4.7 crore of essential items as well as medicines and medical equipments have also been completed during 1992.

SOUTH-EAST ASIA

India's traditionally close and friendly relations with the member countries of Association of South East Asian Nations (ASEAN) were maintained and broadened by numerous high level contacts during 1992-93. India decided to give a special policy thrust to relations with the ASEAN. Bilateral relations with Malaysia were enhanced with the two countries having regular exchange of views at different levels. The Malaysian Defence Minister Dato Seri Najib visited India in March 1992 and had meetings with Prime Minister and Defence Minister. The momentum of exchanges was kept up with Prime Minister meeting the Malaysian Prime Minister, Dr Mahathir, during the NAM Summit in Jakarta in September 1992. Foreign Secretary visited Malaysia from 29 to 31 January 1993, to have bilateral consultations with the Secretary-General of the Malaysian Foreign Office. Former Defence Minister, Shri Sharad Pawar, visited Malaysia from 1 to 7 February 1993 at the invitation of the Malaysian Defence Minister, Dato Najib. A Memorandum of Understanding for cooperation in the defence field was signed during the visit. The two countries signalled upgradation of economic and trade ties by raising the Joint Trade Committee to a full-fledged Joint Commission, the first session of which was held in Kuala Lumpur on 2 and 3 November 1992.

India's relations with Singapore have been marked by the readiness stressed by both sides to embark on a new phase of understanding and cooperation for mutual benefit. Singapore's Deputy Prime Minister and Minister of Trade and Industry, Brigadier General Lee Hsien Loong, accompanied by a high-powered delegation, visited India from 22 to 27 March 1992. He met Prime Minister, Finance Minister, Minister of Civil Aviation and Tourism, and Minister of State for Commerce. Emphasis was laid on future trade and investment ties between the two countries during the visit. Prime Minister, P V Narasimha Rao's meeting with Prime Minister of Singapore, Mr Goh Chok Tong, during the Non-Aligned Summit in Jakarta in September 1992 provided a further fillip to the multi-sided relationship. Singapore's Minister for Information and Arts and Second Minister for Foreign Affairs, visited India from 4 to 15 February 1993 leading a high level delegation which included the Senior Minister for Trade and Industry, Mr Lim Boon Heng. The visit symbolised the desire of both countries to significantly upgrade existing relations. He signed a Memorandum of Understanding for cooperation in arts, archives and heritage with Minister for Human Resource Development.

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India warmly congratulated and assured full cooperation to the new leadership in Philippines under President Famos. India continued to work closely with Indonesia both bilaterally as well as in the Non-Aligned forum and contributed to the success of the NAM Summit in Jakarta. The Indonesian Minister of Industry, Mr Hartarto, accompanied by a large delegation visited India in March 1992. The Minister of State for External Affairs visited Indonesia for the Non-Aligned Ministerial Meeting in Bali in May 1992. The Foreign Minister of Indonesia, visited New Delhi in July 1992 as Special Envoy of President Soeharto, to hold consultations and to invite the Prime Minister to attend the Non-Aligned Summit in Jakarta in September 1992. During the NAM Summit, the Prime Minister had a meeting with President Soeharto on NAM as well as bilateral issues of mutual interest. The momentum of regular consultations was kept up with the Prime Minister meeting President Soeharto again in Dakar during the G-15 Summit in November 1992.

India's traditional and historical ties with Thailand were further strengthened with the State visit of His Royal Highness Maha Vajiralongkorn, the Crown Prince of Thailand, in April 1992. During the visit, the Crown Prince had meetings with the President, Vice President and Prime Minister. Foreign Secretary visited Thailand on 1 and 2 February 1993 for detailed discussions with his counterpart on all aspects of bilateral relations and regional and multilateral issues. India's relations with Brunei Darussalam were given a boost by the first ever state visit of the Sultan of Brunei in September 1992. During the visit, the Sultan had meetings with the President, the Vice President and the Prime Minister. Minister of State for External Affairs Shri Salman Khursheed visited Brunei from 15 to 17 February 1993. He held discussions with the Sultan and several Cabinet Ministers and set an agenda for economic and business cooperation.

Relations with Cambodia continued to be close and friendly. India remained committed to the implementation of the Paris Accord and contributed about 1800 military and civilian personnel for the operations of the UN Transitional Authority in Cambodia (UNTAC). At the Ministerial Conference on Rehabilitation and Reconstruction of Cambodia held in Tokyo in June 1992, India laid stress on the urgency of international support for implementation of the UN peace plan as per the Paris Accord. India would also continue with approximately $ 12 lakh worth of assistance to Cambodia despite her own constraints. The Prime Minister met Prince Sihanouk in Jakarta in September 1992, when the Prince expressed great appreciation for India's help and participation in the peace process and also in Cambodia's reconstruction.

India's traditional relations with Vietnam were further strengthened by exchange of high level visits with special emphasis laid on enhancing bilateral economic, scientific and technical cooperation. The Foreign Minister of Vietnam, Mr Nguyen Manh Cam, paid an official visit to India from 21 to 27 March 1992. He met the President, Vice President, Prime Minister

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and Minister of External Affairs. Prime Minister had a meeting with President Vo Chi Cong of Vietnam in Jakarta during the Non-Aligned Summit in September 1992. The General Secretary of the Communist Party of Vietnam, Mr Do Muoi, led a high level delegation to India from 8 to 13 September 1992. He had meetings with the President, Vice President, Prime Minister and Finance Minister. During the bilateral discussions, new areas were identified for bilateral trade. Minister of State Salman Khursheed visited Vietnam from 20 to 22 February 1993 and met the Prime Minister, Foreign Minister, Deputy Foreign Minister, Ministers of Finance, Trade, Heavy Industry and Light Industry. His visit gave a further fillip to the ongoing Indo-Vietnamese cooperation.

ASIA PACIFIC

The 40th anniversary of the establishment of diplomatic relations and the signing of Peace Treaty between India and Japan in 1992 added another dimension to our steadily burgeoning relations, marked by a spirit of friendship and cooperation in political, economic and cultural fields. During Prime Minister, P V Narasimha Rao's visit to Japan from 22 to 26 June 1992, discussions on various bilateral and multilateral matters were fruitful with new areas for cooperation and consultations identified. It was also decided to hold, for the first time, bilateral consultations on disarmament and nuclear issues between the two countries at the official level.

Shri Madhavsinh Solanki as External Affairs Minister visited Japan in January 1992 and Dr Manmohan Singh, Finance Minister visited in April 1992. Positive interaction was also maintained with Japan at the official and non-governmental levels in diverse areas.

In the economic sphere Japan demonstrated strong interest in India's policy initiatives on economic liberalization and the opening up of the Indian economy. A high level Economic Mission led by the President of the Japan and Tokyo Chambers of Commerce and Industry visited India in January 1992. Japan retained the top slot in the list of India's ODA donors. At the Aid India Consortium meeting in Paris in June 1992, Japan pledged a total of Yen 111.91 billion for 1992-93. Japanese investment in India registered a sharp increase during the year. From Rs 50 million in 1990, investment from Japan rose to Rs 527.1 million in 1991. Total Japanese investment commitment in India had risen to Rs 4, 684.40 million upto October 1992, making Japan the third largest investor in India after the United States and Switzerland.

A steady intensification of exchange and interaction marked India's bilateral relations with the Republic of Korea. Shri Madhavsinh Solanki as External Affairs Minister visited the Republic of Korea from 15 to 18 March 1992 and had useful exchange of views with Foreign Minister Lee Sang Ock on matters of mutual interest. An agreement on civil aviation was also signed during the visit which will enable Korean Airlines to fly to Bombay and Delhi and Air India to fly to Seoul and Pusan. The visit was also utilized to apprise the government and business community in South

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Korea about new trade and economic reforms and investment opportunities in India. India's cordial relations with the Democratic Peoples' Republic of Korea (DPRK) were maintained. Dr Shanker Dayal Sharma as Vice President paid a visit to the DPRK from 14 to 17 April 1992.

Bilateral relations with Australia continued to progress with economic and commercial cooperation assuming enhanced importance. The Australian Minister for Trade and Overseas Development, Mr. John Kerin visited India from 25 to 29 February 1992 to participate in the Joint Ministerial Commission Meeting. The meeting enabled the visiting Australian Minister to witness first hand our strong commitment to economic reforms and liberalization. A high-level Indian parliamentary delegation led by the Speaker, Shri Shivraj Patil, visited Australia from 21 to 30 June 1992. Bilateral relations with New Zealand received a fillip with the visit of Mr Don McKinnon, Foreign Minister and Deputy Prime Minister of New Zealand, in June 1992. Besides attending the meetings of the Joint Trade Committee and the Joint Business Council, Mr McKinnon also had meetings with the Minister of State for External Affairs.

The situation in Fiji continued to receive close attention. After parliamentary elections in May 1992, Mr Rabuka was installed as Prime Minister. Except for setting up a Joint Parliamentary Committee in connection with review of the Constitution of 1990, the Rabuka Government failed to do anything tangible for improving the lot of Fijians of Indian origin. India continued to highlight the institutionalised racial discrimination being perpetuated in Fiji at appropriate international forums and during bilateral meetings. The ban on technical and commercial cooperation with Fiji continued to remain in force.

CHINA

The year saw the consolidation and strengthening of friendly relations with China. The highlights of the year was the State visit by former President, Shri R Venkataraman, to China from 18 to 23 May 1992, the first visit by an Indian Head of State since the establishment of diplomatic relations with the Peoples Republic of China in 1950 and the visit of Defence Minister in July, establishing formal links between the defence establishments of the two countries. The former President's, discussions with Chinese leaders such as President Yang Snangkun, General Secretary Jiang Zemin and Premier Li Peng, confirmed the commitment of both countries to further strengthen their friendly, good neighbourly and mutually beneficial relations. The momentum of high-level exchanges was maintained by a number of Chinese Ministers visiting India in 1992. From India, Minister of Welfare, Shri Sitaram Kesri, and Minister of Human Resource Development, Shri Arjun Singh, also visited China in October 1992.

Another significant event in the year was the holding of the Festival of China in India, which was inaugurated by Vice President Shri K.R. Narayanan, and the Vice Chairman of the Chinese National People's Congress, Mr Liao Hansheng, on 2 December 1992. The Festival was received

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with tremendous enthusiasm in 11 cities across India. Consulates-General of India and China in Shanghai and Bombay respectively were reopened in 1992. The Chinese Consulates General in Bombay was formally inaugurated by Mr Liao Hansheng on 7 December 1992.

Discussion on the boundary question continued within the Joint Working Group (JWG) set up for this purpose. Agreement was reached on holding of meetings of border personnel of the two countries and the establishment of direct telephone links between such personnel on the boundary.

CENTRAL ASIA

India has developed close, friendly relations with the newly independent countries of Central Asia. President Askar Akaev of Kyrghyzstan visited India from 17 to 19 March 1992. President S Niazov of Turkmenistan paid an official visit to India between 18 and 20 April 1992. Earlier, the Presidents of Uzbekistan, Kazakhstan, Kyrghyzstan and Turkmenistan had visited India during 1991-92. These high level visits have given an impetus to the bilateral relations with these countries. Conscious of the special cultural and historical linkages with the Central Asian region, India has opened embassies in Alma Ata in Kazhakhstan and Tashkent in Uzbekistan. It has also been decided to open a Mission in Dushanbe in Tajikistan. These Missions have concurrent accreditations to cover other countries in Central Asia.

Shri R L Bhatia, Minister of State for External Affairs, visited Uzbekistan, Kyrghyzstan and Kazakhstan from 8 to 16 October 1992 and met their respective heads of government. During the visit, both sides agreed to work for the further development of bilateral relations in all spheres. The leaderships of all the three countries expressed their support for India's position that Kashmir issue should be resolved through direct bilateral Indo-Pak negotiations. Shri Salman Khursheed, the then Deputy Minister of Commerce, visited Turkmenistan, Kazakhstan, Kyrghyzstan and Uzbekistan from 27 October to 10 November 1992, leading a multi-disciplinary delegation. The delegation had wide-ranging discussions on expanding trade and economic cooperation with these countries. India has announced credits of US$ 10 million each to Kazakhstan and Uzbekistan and US$ 5 million each to Kyrghyzstan and Turkmenistan.

WEST ASIA AND NORTH AFRICA

India's relations with countries of West Asia and North Africa continued to be marked by friendship and cooperation. Besides bilateral interaction, India coordinated positions with some of these countries in the world fora including UN, NAM and G-15 on international issues of common concern including combating terrorism and religious extremism. Following the establishment of diplomatic relations between India and Israel, a number of exchange visits have taken place at the official level with a view to exploring possibilities of a mutually beneficial bilateral cooperation. Nevertheless, India

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continues to advocate its support for the ongoing peace process which it is hoped will lead to a settlement acceptable to all concerned parties, and taking into account the legitimate rights and aspirations of the Palestinian people both within and outside the occupied territories.

India was invited to participate in the multilateral phase of the Middle East Peace Process comprising five working groups set up to discuss regional issues of common concern *viz* arms control and regional security, environment, economic cooperation and development, water resources and refugees. India, China and Japan are so far the only non-regional Asian countries participating in the Middle East Peace Process.

There were continued high level contacts between India and Algeria. During the visit of the Algerian Minister of Transport in April- May 1992 discussions *inter-alia* focussed on the need for greater cooperation in the railway sector, especially in Algeria's development programmes. Prime Minister and Mr Redha Malek, member of the High Committee of State of Algeria, shared common perceptions on the challenges of religious extremism faced by both the countries when they met on 21 November 1992 at Dakar during the G-15 Summit.

Prime Minister met President Hosni Mubarak of Egypt at G-15 Summit at Dakar in November 1992. Both leaders while sharing views on the progress of Middle East Peace Process felt that continuing of the dialogue between the Arabs and Israel was a necessary pre-condition for peace in the region. Both India and Egypt also agreed to devise means for strengthening NAM so that it could adapt to new challenges.The then Minister of State for External Affairs, Shri Eduardo Faleiro, visited Jordan on 23 and 24 August 1992. The Jordanians suggested founding of an Indo-Arab thought forum and a commission of wise men for Asian ethos.

Moroccan Foreign Minister, Mr Abdul Latif Filali, visited India, from 18 to 23 February 1992. During his meetings with the Prime Minister and other leaders, discussions focussed on the Moroccan proposal to upgrade the Indo-Moroccan Joint Committee, the Middle East Peace Process and developments relating to the Arab Maghred Union. India's sympathy and support to the Palestinian people were reiterated by Prime Minister when he met President Yasser Arafat during his one day stopover in Tunis on 20 November 1992 on his way to Dakar to attend the G-15 Summit. President Yasser Arafat briefed Prime Minister on progress in the Middle East Peace Process, especially in the Israel-Palestinian dialogue. Taking note of the situation created by the expulsion of some Palestinians from the occupied territories, India, as the then President of the UN Security Council, piloted the UN Security Council Resolution 799 of 18 December 1992, which *inter alia* condemned Israeli action and demanded immediate and safe return of all the deportees. In official statements issued in December 1992 and January 1993, India expressed deep concern, and urged Israel to withdraw the expulsion order.

The then Minister of State for External Affairs, Shri Eduardo Faleiro, visited Somalia on 16 November 1992 and handed over relief supplies

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worth Rs 20 lakh in the form of medicines and baby food for the starvation affected people. A cheque for US $ 250,000 from the AFRICA Fund was also handed over. India supported the UN Security Council Resolution 794 inviting member countries to contribute forces for the peace keeping operations for bringing about relief to millions of starving Somalis and accordingly sent two naval ships to take part in the UN Peace Keeping Operation.

On his way to Dakar to attend G-15 Summit, the Prime Minister stopped in Tunis on 20 November 1992 and met Tunisian Prime Minister, Mr Hamid Karoui, and discussed developments in the region with special reference to Libya, Western Sahara, and Middle East Peace Process. The potential of further expansion of commercial and economic cooperation was underlined during the discussions in view of the process of liberalization underway in both the countries.

India's ties with countries of the Gulf region are as old as recorded history, and she has close relations with them in almost every field. The presence of more than 16 lakh Indian citizens working in the Gulf has added a new dimension to the bilateral relations. Before the Gulf war, the annual remittances from Indian nationals in the region were estimated to be Rs 3,500 crore. Since the end of the war, 1,20,000 Indian nationals have already returned to Kuwait and more are expected to follow. India's total trade with the the Gulf region during 1991-92 was approximately Rs 11,546 crore, of which about Rs 3,218 crore was the value of her exports. It has been India's constant endeavour to further strengthen her ties with all the countries of this area. As part of these efforts, the Minister for External Affairs, accompanied by a high level official delegation, visited Kuwait in February 1992. A bilateral cooperation agreement providing for establishment of an Indo-Kuwait Joint Commission was signed during the visit. Kuwaiti Deputy Premier and Foreign Minister Sheikh Sabah Al-Ahmed AI-Jaber Al-Sabha paid an official visit to India in February 1993, during which the two sides reviewed bilateral relations and regional situation.

The UAE President, Sheikh Zayed Bin Sultan Al-Nahayan paid a State visit to India in April 1992 and held detailed discussions on matters of mutual interest with Prime Minister. Both sides agreed to expand the scope of the bilateral relationship. The then Minister of State for External Affairs, Shri Eduardo Faleiro, visited Bahrain, Oman and Qatar in May-June 1992. During his visit, Shri Faleiro held extensive discussions with the leaders of these countries with a view to explore the possiblities of further expanding the scope of bilateral relationship.

India, through her pragmatic approach, contributed to the development of consensus and endorsement of international law and legitimacy in the UN Security Council in 1992 on various resolutions pertaining to the Gulf region. India continued her efforts to get compensation for Indian citizens and commercial estalishments which suffered losses as a result of the Gulf war. A cell has been established in the Ministry of External Affairs for this

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purpose and claims from small claimants have already been filed with the UN Compensation Fund in Geneva.

The tragic incident that took place in Ayodhya on 6 December 1992 had its repercussion in the Gulf countries. Most of them and inter-regional groupings such as Gulf Cooperation Council (GCC) and the Organization of Islamic Conference (OIC) issued critical statements condemning the incident and the communal riots that took place in the wake of destruction of Babri *masjid* at Ayodhya. The government made every effort to explain developments in the correct perspective to the friendly countries. The Ambassadors of GCC countries as well as OIC were briefed by the Minister of State as well as the Secretaries in the Ministry of External Affairs. As a result of these efforts, the Islamic countries by and large appreciate government's commitment to secular ideals and the sincerity with which India is trying to find appropriate solutions to this intensely complex problem.

India has traditionally attached importance to relations with Iran. Iran assumed special signficance for India against the backdrop of the situation in the Gulf, developments in Central Asia and Afghanistan and in the region as a whole. Iran's large reserves of oil and gas, its status as a major power in the region and its impulses on issues of growth and development are factors conducive to cooperation of great mutual benefit and advantage. Frequent high-level exchanges have characterised the bilateral relations. Iranian Foreign Minister, Dr Velayati, visited India for the sixth session of the Indo-Iranian Joint Commission on 10 and 11 November 1992.

AFRICA (SOUTH OF THE SAHARA)

The democratic wave across the African continent has resulted in profound changes. India has welcomed the growing acceptance of multi party democracy in Africa. There was a smooth transition to multi-party democracy, in Zambia, Kenya and Tanzania have carried out necessary constitutional amendments for registration of various political parties. The first multi-party election in 26 years was held in Kenya on 29 December 1992. Two distinguished Indians were part of the Commonwealth Observers Team in Kenya. Seychelles elected a Constituion Commission in July 1992. However, as the draft Constitution submitted for referendum in November 1992 could not muster the requisite minimum percentage of votes (60 per cent), the Constitution Commission is to draw up a fresh Constitution. In Madagascar, the new Constitution was approved in a referendum held in August 1992. In Guinea and Mali, multi-party elections were completed and new governments came into power during the course of the year. In Gambia President Jawara was re-elected. In Zaire a transitional government was elected in August 1992 and has been charged with a mandate to organize multi party elections within a period of two years. In Ghana Presidential elections were completed in November 1992. Ft Lt J J Rawlings was elected as the civilian President and installed on 7 January 1993. In Nigeria the democratic process received a setaback due to wide-spread complaints of irregularities. The Presidential elections originally scheduled to take place in December 1992 were postponed

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to June 1993. Mozambique after signing a General Peace Agreement on 4 October 1992 is moving towards establishment of a multi-party system. Angola conducted elections in September 1992 in which the ruling MPLA party won.

India has always attached special importance to its relations with Africa. With the political independence of all African countries and the prospect of reforms within South Africa, the struggle against colonialism and institutionalised racialism is moving towards a successful conclusion. In the future, new relationships based on concrete economic, technological and educational cooperation will assume enhanced significance. It is increasingly being realised that in several areas Indian technology is more relevant to the needs of Africa than that provided by the developed countries. India has initiated economic collaboration arrangements with several countries of Africa. The focus of Indian cooperation would now shift more to consultancy services, projects, joint ventures and investments in various fields besides promoting India's exports to Africa. Despite constraints of resources on both sides Indian efforts would be to embark on mutually beneficial projects. The countries of Africa seek Indian assistance for their human resource development. In this sphere India is in a position to assist a large number of Indian scientists and technical experts.

While expressing regret at the continuing violence in South Africa, India worked assiduously in various international fora to promote the restoration of the process of negotiations for bringing about a non-racial, democratic and undivided South Africa. She has welcomed the resumption of negotiations between the African National Congress (ANC) and the South African Government. In view of the positive developments towards the formation of an interim Government of national unity, India announced the decision to set up a Cultural Centre in South Africa at a suitable location to promote "people to people" contacts, with power to discharge necessary visa functions. India also decided to commence direct airlinks with South Africa. India continued to give moral and material support to the ANC to end apartheid in South Africa. Sixteen ANC diplomats are being trained in the Foreign Service Training Institute in New Delhi.

The highlight of India's relations with Mauritius was the visit by Prime Minister, Shri P V Narasimha Rao, in March 1992 as Cheif Guest for the celebrations declaring Mauritius a Republic. This was followed by the visit of Sir Veerasamy Ringadoo, first President and former Governor General of Mauritius, in May-June 1992. The Mauritian Foreign Minister, Mr Paul Raymond Berenger, also visited India from 5 to 12 August 1992. These and other high-level visits resulted in a further consolidation of the existing close ties between the two countries.

India and Uganda have long standing relations except for the aberration during Idi Amin's regime from 1972 to 1976. President of Uganda, Mr Yoweri Kaguta Museveni, paid a state visit to India from 12 to 14 October 1992. The visit provided a fillip to the bilateral relations and the two

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countries can now move forward to forging a constructive relationship based on mutual benefit.

During the year under review, India continued to play a significant role as Chairman of the Action for Resisting Invasion, Colonialism and Apartheid (AFRICA) Fund which was set up by the Eighth NAM Summit in Harare in September 1986, as an expression of the Movement's support and solidarity with the Frontline States. At the 10th NAM Summit in Jakarta in September 1992, the Prime Minister, as Chairman of the AFRICA Fund Committee, endorsed the recommendations of the Committee that while the mandate of the Fund ends at the 10th Summit, the member states of the Movement would continue to support the liberation movements in South Africa till the objective of bringing about a non-racial, unified and democratic South Africa is achieved. The NAM Summit also accepted the proposal of the Chairman, Prime Minister of India, to provide US$ 250,000 for the humanitarian relief in Somalia and the remaining balance to the Southern Africa Development Community (SADC) for drought relief in Southern Africa, human resource development in South Africa and voter education there before the elections. The activities of the AFRICA Fund have been greatly appreciated by the Frontline States and the liberation movements and have earned all round recognition. Its experience has set an example in South-South cooperation and collective solidarity. It was India's privilege to be associated with this effort both as a contributor to the Fund and its Chairman.

EUROPE

EASTERN EUROPE

The process of reformulation of international relations and the building of the new international structures has begun. Developments in Eastern Europe and the former Soviet Union will have a very important bearing on the evolution of this new order.

Several steps were taken to consolidate India's traditionally friendly, cooperative and mutually-beneficial relations with independent Republics that emerged from the former Soviet Union. Diplomatic relations have been established with all the Republics. In addition to Moscow, Indian embassies are now functioning in Kiev and Minsk and Consulates-General in Vladivostok and St. Petersburg. The Consulate General in Odessa also continues to function. India's relations with these countries are being reconstructed on new lines. President Yeltsin of Russia visited India from 27 to 29 January 1993. He was accompanied by the first Deputy Chairman of the Council of Ministers, Mr Shumeiko, Foreign Minister, Defence Minister, Minister of Security and Minister of External Economic Relations, among others. President Yeltsin had meetings with the President and Prime Minister. The Ministers accompanying him had separate bilateral discussions. The visit laid a durable foundation for future friendship and

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close interaction between India and the Russian Federation. President Yeltsin indicated Russia's desire to build a dynamic growth-oriented multi-faceted relationship with India and stated that a friendly and stable relationship between two big Asian powers like Russia and India will contribute to the cause of regional stability and peace. Following President Yeltsin's visit, a new chapter has opened in Indo-Russian relations that takes into account the changed global context as also the changes that have taken place in both the countries.

Earlier, former Russian State Secretary, Mr Gennady Burbulis, visited India in May 1992 at the invitation of Finance Minister. He was accompanied by Ministers of Foreign Economic Relations, Economy and Fuel and Energy and State Counsellor for Conversion of Defence Industry. He called on the President, Vice-President and Prime Minister and held discussions with Defence Minister and Ministers of State for External Affairs, Commerce and Power. The high point of Parliamentary contacts between Russia and India was the visit of a Russian Parliamentary delegation led by the Supreme Soviet Chairman, Mr Ruslan Khasbulatov, to India in August 1992.

Defence Minister, Shri Sharad Pawar, paid an official visit to Moscow in September 1992. Substantive discussions were held with acting-Prime Minister, Mr Gaidar, and Defence Minister, General Grachev, apart from other Russian dignitaries. He discussed with his hosts, bilateral and international security issues and continuing military technical cooperation between India and Russia.

President Kravchuk of Ukraine visited India in March 1992. During the visit, India and Ukraine signed a Treaty of Friendship and Cooperation, and an agreement on trade and economic cooperation. An agreement on cooperation in the fields of science and technology and in spheres of culture, arts, education, tourism, sports and mass-media was also signed. In October 1992, Defence Minister, Shri Sharad Pawar, visited Kiev, during which he had meetings with President Kravchuk, Defence Minister Morozov, Foreign Minister Zlenko and Minister for Heavy Industry and Conversion. These visits served to continue the high-level dialogue between the two countries. The Indian Embassy was opened in Kiev on 7 May 1992, the first among the new CIS Republics.

India recognised the sovereignty and independence of the Republic of Belarus in December 1991. Formal protocols for the establishment of diplomatic and consular relations between India and Belarus were signed in Minsk in March 1992. The Embassy of India in Minsk was opened on 14 May 1992. India's Ambassador in Romania is concurrently accredited to Moldova. He presented his credentials to the Moldovan President in August 1992. Diplomatic and consular relations have been established with Armenia on 31 August 1992. Our ambassador in Ukraine is concurrently accredited to Armenia. India established diplomatic relations with Georgia on 29 September 1992. Interchanges with Armenia, Georgia and Moldova

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in the commercial and cultural sectors as also in the matter of technical assistance under ITEC have been initiated.

Prime Minister met the Presidents of all the three Baltic Republics at Rio de Janeiro on 13 June 1992. He recalled that India had established diplomatic relations with all the three Republics and, in due course, would open missions in their capitals.

India has welcomed the advent of democracy and a pluralist form of government in east European countries. India has also welcomed the efforts being made by these countries to remodel their economic structures to integrate them into the international economic system based on market principles. The year also saw the peaceful and constitutional division of the Czech and Slovak Federal Republic with effect from 1 January 1993. India has recognised both the new Republics that have emerged, *viz.*, the Czech Republic and the Slovak Republic. Relations with Hungary continued to develop with a series of working-level visits. The 100th death anniversary of the famous Hungarian Indologist Alexander Choma de Korosi was commemorated by a series of events both in India and Hungary.

Minister of State for External Affairs, Shri R.L. Bhatia, paid an official visit to Poland, Slovak Republic, Czech Republic and Hungary from 9 to 18 February 1993. Besides meetings with his counterparts in these countries and discussing bilateral matters and issues of common concern, he called on other senior political leaders. The purpose of the visit was to maintain the friendly, political, economic, commercial, cultural and other relations that India enjoys with these countries.

Following the dissolution of the Socialist Federal Republic of Yugoslavia, India had on 11 May 1992, extended recognition to the Republics of Slovenia, Croatia, Bosnia and Herzegovina. The Indian Embassy in Belgrade continued to be accredited to the newly-formd Federal Republic of Yugoslavia. In respect of Macedonia, taking all relevant factors into account, India has not yet accorded recognition. The on-going crisis in the former Yugoslavia is a matter of serious concern and an anxiety. India is grieved at the loss of innocent lives and the economic and social distress that has resulted from the crisis. We welcome all efforts to bring about an immediate cessation of hostilities and stress the need for an early political resolution without resort to any form of force or violence. As a gesture of solidarity, India has decided to contribute humanitarian relief amounting to Rs 10 lakh for the former Yugoslavia.

WESTERN EUROPE

During 1992-93, India's initiatives on forging closer relations with countries in western Europe were given sharper focus. Government took into account impending changes across the European continent in light of the Maastricht Treaty which aims at economic, monetary and political union of the EC member countries, as well as entering into effect of a single European Market by January 1993. The annual Indo-EC Troika-level talks were held in Delhi

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in March 1992. The Foreign Ministers of Portugal, UK and Netherlands visited India for the talks.

Indo-UK relations were marked by growing understanding and cooperation in diverse fields. It is a matter of considerable satisfaction that UK has been closely cooperating with India in countering terrorism and has taken stern action against terrorists based in UK. The British Foreign Secretary as well as the Home Secretary visited India in January 1992. It was agreed to intensify exchanges at various levels and in all areas of bilateral interaction. It was also agreed to institutionalise talks between the two Foreign Offices. During Home Minister's visit to the UK in September 1992, an Extradition Treaty and an agreement for the tracing, restraint and confiscation of the proceeds and instruments of crime and terrorist funds were concluded with the UK. These agreements were of historic import and signified the joint determination of both countries in combating terrorism. British Prime Minister, Mr John Major visited India from 23 to 28 January 1993. Mr Major was accompanied by a high level business delegation. The British Prime Minister reaffirmed UK's commitment to close cooperation with India in combating terrorism and he also expressed support for India's secular and democratic traditions as well as economic reforms. The visit of Mr Major provided a strong impetus to bilateral trade as well as investment and joint ventures, availing of the opportunities opened up by India's economic liberalisation programme.

The Festival of India in Germany, which concluded in July 1992, was widely acknowledged as a great success and played an important role in bringing the peoples of India and Germany closer together. The first meeting of the Indo-German Consultative Group, set up by the Prime Minister and the German Chancellor was held in Bonn on 16 September 1992. This Group recommended a number of measures for strengthening bilateral cooperation in various fields. German Chancellor, Mr Helmut Kohl, visited India from 18 to 22 February 1993. The Jawaharlal Nehru Award for International Understanding was conferred upon him on 19 February 1993.

India has traditionally enjoyed close relations with France, to which we attach importance in both the European and the global contexts. Prime Minister's official visit to France from 28 to 30 September 1992 served to consolidate these relations. Both sides confirmed their desire to impart new dimensions and depth to bilateral relations, in particular in the areas of investment, technology and trade.

The state visit of the President of Portugal to India from 26 January to 4 February 1992 marked a high point in Indo-Portuguese relations. Prime Minister also paid a transit visit to Lisbon on 15 June 1992. Government approved a Portuguese proposal for the setting up of a Consulate General of Portugal in Goa. Prime Minister paid a transit visit to Madrid on 10 June 1992. The Spanish Prime Minister paid an official visit to India from 6 to 10 February 1993 during which a number of important bilateral agree-

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ments were concluded. Relations with Spain, particularly in the areas of trade and economic relations, continued to expand.

THE AMERICAS

NORTH AMERICA

India has always pursued friendly relations with the United States, based on shared democratic values and traditions. The changes in the international environment brought about by the end of the cold war have provided both the countries with an opportunity to re-evaluate bilateral relations. The election of Mr Bill Clinton as the 42nd President of the United States, and the induction of the democratic administration has opened new vistas for enhancing relations with the United States. The US remained India's largest trading partner as well as the biggest foreign investor in India. Total trade turnover during 1991-92 was around US$ 4.91 billion. India had a favourable balance of trade with the US, with imports amounting to US $ 1.99 billion and exports US $ 2.92 billion. The US has welcomed the recent economic liberalisation measures taken by India and has encouraged this process and supported India's request for loans in multilateral financial institutions.

Bilateral defence cooperation has been proceeding satisfactorily in a structured manner, aided by frequent exchanges of high level visits. A number of senior US military officers have visited India. Defence Minister visited the USA from 5 to 9 April 1992. The Chief of Naval Staff and Chief of Air Staff also visited the US during 1992. For the first time, Indo-US Joint Naval exercises were held off the western seaboard on 29 May 1992. Four warships, two from each side, participated in the 24 hour exercises.

The issue of protection of Intellectual Property Rights continued to remain a major trade-related irritant in bilateral ties. High level consultations have narrowed the gap on copyrights, trademarks and access to US motion pictures, but differences continue to persist on patents, especially in relation to food, pharmaceuticals and chemicals. On 29 April 1992, the US withdrew GSP concessions on specified imports of drugs and chemicals from India as a retaliatory measure. India has also been redesignated a "priority foreign country" under the Special 301 provisions. High technology transfers from the US had emerged as an important facet of bilateral interaction. However, due to increased proliferation concerns heightened by the Gulf War, the US has of late been more stringent in releasing dual-use high-technology items, including spare-parts. Negotiations for a second supercomputer for the Indian Institute of Science, Bangalore, did not fructify because of US insistence on intrusive and restrictive security and end-use conditions. The US attitude has adversely affected a number of Indian programmes, particularly in the Department of Space. On 11 May 1992, the US announced the imposition of a two year ban on American trade and technology transfers with ISRO and Glavkosmos of Russia over a deal for the supply of cryogenic rocket engines which the US

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regards as being violative of the Missile Technology Control Regime (MCTR). On 16 June 1992, the US Department of Commerce amended export administration regulations by notifying a list of countries to which no American company can export any product without licence if it has reason to believe that the product will be used for missile design, development, production and use. The list includes India and specifically mentions the *Agni* and *Prithvi* projects and the SLV, ASLV, PSLV and GSLV programmes. India has conveyed her concern to the US to name her civilian space programme in the notification as it has no connection with her missile programme.

To enable a better appreciation of each other's perspectives, India has initiated a bilateral dialogue with the US on disarmament, non-proliferation and regional security issues. Two rounds of discussions have been held so far, covering the entire range of global arms control trends, regional security issues and initiatives designed to promote stability and confidence building. These talks have facilitated a better understanding of each other's position.

Founded on historical and shared ties of the Commonwealth, Indo-Canadian relations have been traditionally friendly. Canada has been supportive of India's request for loans in multilateral financial institutions. Canadian aid to India during 1992 amounted to approximately C$ 100 million. There is satisfactory operational cooperation between India and Canada to combat terrorism and other criminal activities. The Shastri Indo-Canadian Institute (SICI) launched its silver jubilee celebrations, to be held in 1993, with the inaugural Lal Bahadur Shastri Memorial Lecture which was delivered by the Vice President of India.

CENTRAL AND SOUTH AMERICA AND THE CARIBBEAN

India's relations with the Latin American countries and the Caribbean witnessed a definite improvement during the year. Interactions at the highest political levels, conclusion of a number of important bilateral agreements and a stream of visitors to India towards the latter half of the year, were some indications of the renewed intensity in India's relations with this important region of the world.

The Prime Minister attended the UN Convention on Environment and Development (UNCED), popularly called the 'Earth Summit' at Rio de Janeiro, Brazil, from 3 to 14 June 1992. He also had bilateral meetings with President F Collor of Brazil and President Salinas of Mexico. During the NAM Summit from 1 to 6 September 1992 in Jakarta, Prime Minister had a meeting with the Foreign Minister of Venezuela. Minister of State for External Affairs, Shri R L Bhatia had a meeting with the Foreign Minister of Trinidad and Tobago, and the then Minister of State for External Affairs, Shri Eduardo Faleiro, informally met the Foreign Minister of Suriname, which holds an Observer's status in the NAM. Shri Eduardo Faleiro undertook a tour to three important Caribbean countries, namely, Suriname from 19 to 22 September, Trinidad from 1 to 4 October and Jamaica from

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5 to 7 October 1992. This was the first bilateral visit to the region since Vice President's visit in 1988. The tour provided an opportunity to further strengthen and consolidate the already strong historical and traditional links with these countries. The Cuban government deeply appreciated India's decision to sell 10,000 tonne of rice to them on credit. Mr Harold Pollack, Minister of Natural Resources of Suriname, visited India from 20 to 22 October 1992 and had meetings with Minister of State for External Affairs and Minister of State for Mines. The Adviser to President Dr Cheddi Jagan of Guyana, Mr Vikram Oditt, called on the then Minister of State for External Affairs, Shri Eduardo Faleiro, and handed over a written message from his President addressed to Prime Minister. He was in new Delhi also to attend a UNIDO-sponsored Conference held in November 1992.

UNITED NATIONS AND INTERNATIONAL CONFERENCES

The year under review marked a significant milestone in the activities of the UN. A reinvigorating UN with a more sharply focussed agenda was increasingly perceived as having moved to centre stage and as having assumed an increasingly significant role in directly or indirectly shaping events the world over. These ranged from the situation in Federal Republic of Yugoslavia (FRY), Bosnia-Herzegovina, the Middle East Peace Process, the humanitarian crisis in Somalia, to the United Nations Transitional Authority on Cambodia (UNTAC) which supervised settlement in Cambodia, etc. In addition, the UN continued to mediate on issues ranging from Central America and Cyprus to Mozambique and issues relating to Commonwealth of Independent States.

By being a member of the Security Council, India played an innovative, moderating and pragmatic role on a whole range of issues. India maintained its consistent position that while Iraq would have to comply with the mandatory resolutions of the Security Council, the Council should give serious consideration to the possibility of relaxing the sanctions regime in view of the humanitarian crisis. India also supported Security Council Resolution 778 which permitted certain categories of frozen Iraqi assets to be released to the UN for humanitarian and compensation purposes. She also maintained her consistent support for the peace process in West Asia. India co-sponsored the Resolution in the UN for the admission of Slovenia, Croatia and Bosnia-Herzegovina as members of the UN and joined in Security Council Resolutions imposing sanctions on FRY in an attempt to ensure that FRY adopted a more supportive role in bringing peace to Bosnia-Herzegovina. India fully supported the Security Council Resolutions aimed at resolving the conflicts in Croatia and Bosnia-Herzegovina. However, India abstained on Resolutions permitting the use of force for protection of humanitarian convoys on the grounds that this was contrary to her principled position that all use of force sanctioned by the UN must remain under full UN command and control. India also abstained on the Resolution denying FRY's right to participate in the General Assembly. India also joined other members of the Security Council in approving the

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deployment of a UN battalion in Macedonia. India's two-year term in the Security Council came to an end on 31 December 1992.

A major Indian initiative in 1992 was the tabling of a Resolution at the 47th General Assembly on the question of equitable representation and increase in membership of the Security Council. In her statement India emphasised the need to apply the principle of democracy within the UN itself and underlined that if the Security Council was to represent the collective will of the international community and ensure its moral sanction, the members of the UN must have a wider representation in the Security Council. The 47th General Assembly adopted after a vote, a Resolution on "Implementation of the Declaration of the Indian Ocean as a Zone of Peace" with India voting in favour.

India continued to play its traditionally leading role in the three main multilateral disarmament fora, *viz,* the Conference on Disarmament in Geneva, the UN Disarmament Commission and the First Committee of the UN General Assembly in New York. India's approach to disarmament has continued to be guided by the basic philosophy that in the nuclear age, disarmament measures, especially nuclear disarmament, should be undertaken in a time bound manner to ensure the survival of mankind. India continues to maintain that the priorities for disarmament which are postulated in the consensus final document of the First Special Session of the UN General Assembly devoted to disarmament are relevant. India's approach to general and complete disarmament has been best elaborated in the Action Plan for a Nuclear Weapon Free and Non-Violent World Order tabled at the Third Special Session of the UN General Assembly devoted to disarmament in 1988.

The UN Conference on Environment and Development (UNCED) held in Rio de Janeiro in June 1992 marked a major milestone in the evolution of an international consensus on development and environment related issues. At this Summit, a detailed programme of action-Agenda 21 and a Statement of Principles on Forests were adopted. Two important conventions were opened for signatures at UNCED—a Framework Convention on Climate Change and Convention on Biodiversity, both of which were signed by India. The Indian delegation to the UNCED Summit was led by the Prime Minister who was the first to address its Summit level segment. Prime Minister emphasised that we cannot have conservation of the environment without the promise of development even as we cannot have sustained development without the preservation of the environment. India played an active role in the preparatory process for and at the UNCED Summit, emphasising the close interlinkage between economic development issues and protection of the environment.

The Summit Level Group on South-South Consultation and Cooperation (G-15) is an important global institution for furthering measures aimed at developing concrete programmes of South-South cooperation and indentifying and articulating global economic issues of common concern to

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the developing countries with a view to initiating a North-South dialogue thereon. India has made important contributions to the G-15 process and in 1992, these activities were further strengthened. Under the programme of South-South cooperation, futher progress was made with regard to specific projects identified at the first and second summits of the G-15 which were held in Kuala Lumpur and Caracas in 1990 and in 1991 respectively. It may be recalled that the G-15 Heads of State/Government had mandated India to develop projects on the establishment of gene banks for medicinal and aromatic plants and also on solar energy applications. Under the project for the establishment of gene banks for medicinal and aromatic plants, the first meeting of the Regional Coordinators and the scientific advisory committee was held in New Delhi from 24 to 26 June 1992. Likewise, the meeting of G-15 experts on solar energy applications was convened in New Delhi from 2 to 5 September 1992. The expert committees, during these meetings, drew up a concrete plan of action in order to identify priorities and implement the agreed measures. The Third Summit of the G-15 was held in Dakar, Senegal, from 21 to 23 November 1992. India was represented by Prime Minister, Shri P V Narasimha Rao. It was noteworthy in respect of the many new cooperation projects which were tabled and approved for further action. India's contribution in respect of solar energy applications and gene banks was appreciated. India, furthermore, offered additional projects, *viz*, vocational training centre to be established in Africa and computer training centre in New Delhi. These new Indian offers were warmly received and approved for implementation.

The Summit meeting of the Association of South-East Asian Nations (ASEAN), held on 27 and 28 January 1992, approved India as a sectoral dialogue partner. The sectoral dialogue will concentrate on trade, technology, tourism and human resource development. The sectoral dialogue would facilitate development of broad-based ties between India and the ASEAN countries.

OVERSEAS INDIANS

It is estimated that there are about 120 lakh persons of Indian origin residing in different parts of the world. It is the consistent policy of the government that persons of Indian origin who have taken foreign nationality should identify themselves with and integrate in the mainstream of social and political life of the country of their domicile. The overseas Indians have been projecting a number of demands to the Government of India relating to further liberalisation in the Indian economy, relaxation in the rules and regulations in respect of taxation, Foreign Exchange Regulation Act (FERA), bank and portfolio investment, project and industrial investment, educational needs of their children and resettlement requirements including housing. The revised economic policy of the government has acceded to a number of these demands by encouraging investment in new sectors such as housing, infrastructure and real estate development on a non-repatriation basis, remittances in foreign exchange to any person in India without being subject to

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gift tax and total immunity from any investigation/enquiry, issue of India Development Bonds, investment upto cent per cent equity in high priority industries with full benefit of repatriation of capital invested and income accruing thereon including investments for extension and diversification of existing industrial undertakings.

There are at present 144 resident Indian missions/posts abroad manned by officials from India. There are 22 passport offices in India. In 1992, 24.72 lakh applicants applied, out of which 22.68 lakh passposts were issued.

EXTERNAL PUBLICITY

The External Publicity Division deals with all information and media work pertaining to the Ministry of External Affairs. Its chief also serves as the spokesman of the Government of India for foreign policy issues. Its responsibilities include cordination and supervision of all press and information related activities of Indian missions abroad and interaction domestically with the local and foreign press, both print and audio-visual, on issues relating to India's foreign relations.

PROPAGATION OF HINDI ABROAD

The Ministry of External Affairs is primarily responsible for propagation of Hindi in foreign countries. This responsibility is, to some extent, shared by the Department of Education, Central Hindi Directorate of the Ministry of Human Resource Development and the ICCR. As a part of its programme of propagating Hindi abroad, the Ministry has posted Hindi officers in Indian missions in Guyana, Suriname, UK, Trinidad and Tobago, Mauritius and Nepal. Particular emphasis is laid on the countries which have a sizeable population of people of Indian origin and where the urge to learn Hindi amongst the natives is quite pronounced. *Devnagari* typewriters, Hindi audio-cassettes and other teaching aid material are also sent. In addition, help was given to universities and local organizations in South Korea, Suriname, Hungary, Norway, Belgium, China, Mauritius, Denmark, Belarus, Mongolia, Guyana etc. for organizing Hindi competitions. The Ministry also liaisons with the Department of Education and Indian missions for selection of foreign students to study Hindi at the Central Institute of Hindi, Agra, on Government of India scholarships. An ambitious programme has been undertaken recently with a view to promote Hindi in Mauritius. It has been decided to institute an award for a Hindi writer of Mauritius and hold Hindi drama workshops there annually. The Ministry is also associated with the organisation of the Fourth World Hindi Conference which is to be held in Mauritious towards the end of 1993.

INDIAN COUNCIL FOR CULTURAL RELATIONS

The Indian Council for Cultural Relations (ICCR) established in 1950 is administratively attached to the Ministry of External Affairs as an autonomous

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organization. The Council is to foster and strengthen cultural relations and mutual understanding between India and other countries. It continued to work towards these objectives steadily during 1992-93 by further strengthening and expanding its activities through its various wings like publications, incoming and outgoing cuultural troupes, distinguished visitors and exhibitions, foreign students, culural centres abroad etc. The Council has eight regional offices in India and eight cultural centres abroad.

There are 22 visiting professors deputed by the ICCR to universities and institutions in Belgium, France, Finland, Turkey, Bulgaria, Czech and Slovak Republics, Poland, Russia, China, Republic of Korea, Indonesia, Guyana, Suriname and Trinidad and Tobago, who are teaching Indology, Indian languages and allied subjects. Two Chairs of Indian studies were created in 1991 in the University of California, Berkley, the first such Chair in any US university. The Chairs were set up with the endowment by the Indian community in the USA and with the financial assistance of the Sarah Kailath Endowment. ICCR had deputed two eminent visiting professors to deliver lecture courses in 1991-92 and 1992-93. The Chairs were initiated by the Consulate General of India in San Francisco and established to coincide with the 150th anniversary of the Indo-US educational exchanges.

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29 States and Union Territories

ANDHRA PRADESH

Area: 2,75,068 sq km	*Population:* 6,63,04,854
Capital : Hyderabad	*Principal Languages :* Telugu and Urdu.

HISTORY AND GEOGRAPHY

The earliest mention of the Andhras is said to be in *Aitereya Brahmana* (2000 BC). It indicates that the Andhras, originally an Aryan race living in north India migrated to south of the Vindhyas and later mixed with non-Aryans. Regular history of *Andhra Desa,* according to historians, begins with 236 BC, the year of Ashoka's death. During the following centuries, Satavahanas, Sakas, Ikshvakas, Eastern Chalukyas, Kakatiyas ruled the Telugu country. Other dynasties which ruled over the area in succession were the kingdoms of Vijayanagar and Qutub Shahi followed by Mir Qumruddin and his successors, known as the Nizams. Slowly and gradually from the 17th century onwards, the British annexed territories of the Nizam and constituted a single province of Madras. After Independence, Telugu-speaking areas were separated from the composite Madras state and a new Andhra state came into being on I October 1953. With the passing of the State Reorganisation Act 1956, Telangana area was added to Andhra State and Andhra Pradesh came into being on 1 November 1956. Andhra Pradesh is bounded on north by Orissa and Madhya Pradesh, on west by Maharashtra and Karnataka, on south by Tamil Nadu and on east by the Bay of Bengal. Sea coast is about 974 km in length.

AGRICULTURE

Agriculture is the main occupation of about 70 per cent of the people in Andhra Pradesh. About 40 per cent of cultivated area is irrigated. The state is surplus in foodgrains, particularly rice. Other important crops are *jowar bajra,* maize, ragi, small millets, pulses, castor, tobacco, cotton, sugarcane, groundnut and banana. The state accounts for about 55 per cent of the country's entire production of castor and 94 per cent of virginia tobacco. Forests cover 23 per cent of the state's area. Important forest products are teak, eucalyptus, cashew, casuarina, bamboo, soft-wood etc.

During 1992-93, the production of rice, oil-seeds and pulses was 85.89 lakh tonnes, 24.82 lakh tonnes and 7.28 lakh tonnes respectively.

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FULFILLING PEOPLE'S ASPIRATIONS

Andhra Pradesh, under the dynamic leadership of Chief Minister Sri Kotla Vijayabhaskara Reddy, is marching on the path of all–round development, fulfilling the hopes and aspirations of the people. A number of far–reaching schemes and programmes are under implementation in the State with active participation by the people.

SOME HIGHLIGHTS:

* Sale and consumption of arrack banned throughout the State from October 1, 1993 with the objective of ensuring the well-being of the poor.
* A record investment of Rs.917 crores proposed for power sector during 1993-94 and additional power generation of 820 MW is expected.
* Sanction of Southern Gas Grid is a milestone in the efforts for maximum power generation in the region.
* Foundation laid for 200 MW gas-based power plant at Jegurupadu in private sector. 1000 MW thermal power stations proposed at Visakhapatnam and Krishnapatnam (Nellore District).
* A Rs.1902.26 crore agricultural development programme drawn up to usher in a second Green Revolution and develop agriculture in rainfed and dry lands.
* Remunerative support prices ensured for different crops and fertilizers being supplied at subsidized prices.
* 1993-94 declared as "Minor Irrigation Year" and action plan with outlay of Rs.300.84 crores proposed to be implemented.
* A record number of 1.24 lakh agricultural pump sets energised last year. The Slab rate on power consumed by farmers reduced to Rs.75/- benefitting 14 lakh farmer families.
* Irrigation sector provided Rs.537.02 crores (28% of the total budget) in 1993-94. A number of projects taken up for the speedy development of backward areas in Rayalaseema and Telangana.
* Foundation laid for Narasimha Raya Sagar Reservoir at Gorakallu in Kurnool district costing Rs.260 crores and providing irrigation to 2 lakh acres.
* Central Water Commission gave clearance to 8 Medium Irrigation projects to irrigate 33,838 HA of land to be implemented during 8th plan.
* Irrigation facility proposed for 5.28 lakh acres land belonging to 3.59 lakh SC families and Horticulture to be developed in 40,000 acres belonging to SC farmers.
* Quantity of subsidy rice to White Card holders increased to 20 Kgs from 16 Kgs benefitting over 1 crore families.
* Andhra Pradesh is in the forefront in weaker section housing programme; during 1991-92 the number of houses constructed totalled 2.03 lakhs; during the current year 4.31 lakh houses proposed to be built at a cost of Rs.367.77 crores.
* Central clearance received for the scheme to supply drinking water to Hyderabad and Secunderabad from Nagarjunasagar.
* Hyderabad to be developed as Mega City at a cost of Rs.913 crores.

A GOVERNMENT DEDICATED TO THE WELFARE OF THE PEOPLE

ISSUED BY THE COMMISSIONER, INFORMATION & PUBLIC RELATIONS, HYDERABAD

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IRRIGATION AND POWER

Important irrigation schemes implemented include Nagarjunasagar project, Prakasam barrage, Tungabhadra low-level canal, Kurnool-Cuddapah canal, Kadam project, Romperu drainage project and Upper Pennar project. Other important projects under implementation include Sri Ramasagar, Vamsadhara, Polavaram multi-purpose and Somasila projects. Work on Telugu Ganaga project intended to supply drinking water to Madras and irrigation to Rayalaseema and Nellore districts was launched in 1983. Important power projects are the Machkund, Upper Sileru, Lower Sileru, Tungabhadra Dam, Nagarjunasagar, Srisailam and Nizamsagar hyder power schemes and Nellore, Ramagundam and Kothagudem and Vijayawada thermal stations. Third stage of Vijayawada thermal power station went on stream in October 1989. By March 1993 the installed capacity reached 5,080 M W. In addition, 27,358 (100 per cent) villages had been electrified and about 14 lakh pump sets energised. Srisailam hydro-electric project with an installed capacity of 770 MW and the Nagarjunasagar Complex with 960 MW are the principal resources of hydel generation.

INDUSTRY AND MINERALS

Several major industries are in operation around Hyderabad and Visakhapatnam. They manufacture machine tools, synthetic drugs, pharmaceuticals, heavy electrical machinery, ships, fertilisers, electronic equipment, aeronautical parts, cement and cement-products, chemicals, asbestos, glass and watches. Andhra Pradesh has virtual monopoly of quality chrysolite asbestos in the country. It accounts for about 86 per cent of India's total production of barytes. Other important minerals found are copper ore, manganese, mica, coal and limestone. The state ranks sixth in manganese ore production and second in mica and limestone production. It stands second in deposits of minerals of strategic importance and sixth with regard to their value produced. Singareni Coal Mines supply coal to the entire south India. There were 1,152 large and medium-scale industries with a total investment of Rs 18,733.27 crore providing employment to 5.38 lakh persons (as on 1-7-93) besides 1,05,069 small-scale industries with investment of Rs 1400.47 crore employing 9,09,515 persons as on 31 March 1993.

TRANSPORT

ROADS

National highways passing through Andhra Pradesh constitute 2,587 km of national highways whereas the state highways covers 9,165 km. There are 25,207 km of major district roads in the state. The Andhra Pradesh State Road Transport Corporation has been operating a fleet of 15,266 buses carrying 37,169,51 lakh passengers during 1992-93. The total number of bus stations with modern facilities as at the end of May 1993 were 358.

RAILWAYS

Of the Railway route of approximately 5,095 km in Andhra Pradesh, 3,381 km is broad guage.

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AVIATION

Important airports connecting Bombay, Delhi, Calcutta, Bangalore and Madras are Hyderabad, Tirupati, Vijayawada and Visakhapatnam. Cuddapah, Hyderabad, Rajahmundry, Ramagundam, Tirupati, Vijayawada, Visakhapatnam and Warangal are connected by the Vayudoot service.

PORTS

Major port is Visakhapatnam. Minor ports are Kakinada, Machilipatnam, Bheemunipatnam, Krishnapatnam, Vadarevu and Kalingapatnam.

TOURIST CENTRES

Charminar, Salarjung Museum, Golconda Fort in Hyderabad, Kakatiya Gate in Warangal, Sri Lakshminarasimha Swamy Temple at Yadagirigutta, Buddha Stupa at Nagarjunakonda Sri Venkateswara Temple, Tirupathi, Araku Valley, Horsley Hills etc., are the major tourist attractions in Andhra Pradesh. As part of Buddha Purnima project, 33 life-size statues of eminent Telugu personalities of the state personalities were erected on Tank Bund of Hussainsagar lake in Hyderabad. A giant statue of Lord Buddha of a height of 60 feet has been erected on the Gibraltar rock in the Hussain Sagar lake separating Hyderabad and Secunderabad ites.

GOVERNMENT

Governor	:	Krishan Kanth
Chief Minister	:	K. Vijayabhaskar Reddy
Speaker	:	D. Sripada Rao
Chief Secretary	:	K. Jayabharath Reddy
Chief Justice	:	A. Lakshmana Rao (Acting)
Jurisdiction of High Court	:	Andhra Pradesh.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area	Population	Headquarters
1. Adilabad	16,128	20,80,231	Adilabad
2. Anantapur	19,130	31,83,781	Anantapur
3. Chittoor	15,152	32,49,565	Chittoor
4. Cuddapah	15,359	22,59,154	Cuddapah
5. East Godavari	10,807	45,41,306	Kakinada
6. Guntur	11,391	40,85,904	Guntur
7. Hyderabad	217	30,91,718	Hyderabad
8. Karimnagar	11,823	30,43,228	Karimnagar
9. Khammam	16,029	22,00,081	Khammam
10. Krishna	8,727	36,93,179	Machilipatnam
11. Kurnool	17,658	29,73,709	Kurnool
12. Mahaboobnagar	18,432	30,71,765	Mahaboobnagar
13. Medak	9,699	22,64,124	Sangareddy
14. Nalgonda	14,240	28,50,183	Nalgonda
15. Nellore	13,076	23,90,435	Nellore
16. Prakasam	17,626	27,50,340	Ongole
17. Nizamabad	7,956	20,34,794	Nizamabad
18. Rangareddy	7,493	25,28,208	Hyderabad

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District	Area	Population	Headquarters
19. Srikakulam	5,837	23,14,442	Srikakulam
20. Visakhapatnam	11,161	32,72,110	Visakhapatnam
21. Vizianagaram	6,539	21,01,394	Vizianagaram
22. Warangal	12,846	28,11,174	Warangal
23. West Godavari	7,742	35,13,979	Eluru

ARUNACHAL PRADESH

Area: 83,743 sq. km
Capital: Itanagar

Population: 8,58,392
Principal Languages: Monpa, Miji, Aka, Sherdukpen, Bangni, Nisni, Apatani, Tagin, Hill Miri, Adi, Gallong, Digaru Mishmi, Idu-Mishmi, Miju-Mishmi, Khampti, Nocte, Tangsa and Wancho.

HISTORY AND GEOGRAPHY

History of Arunachal Pradesh goes back to hundreds of years into mists of tradition and myth. Local tradition regards the country around Sadiya as the ancient Vidarbha. Ancient *Puranas* have many references to the region. Recorded history of Arunachal Pradesh can be traced only when Ahom kings began to rule Assam in the 16th century. The British took possession of Assam in 1838. British government had brought Arunachal Pradesh also under their administrative control. After Independence, it was a part of North East Frontier Agency, and later, made a union territory. On 20 February 1987 Arunachal Pradesh was made a full-fledged state. Arunachal Pradesh is skirted by Bhutan in west, Tibet and China in north and north-east, Burma to east and Assam in south. It consists of the submontane and mountainous ranges sloping to the plains of Assam. It is the largest state area-wise in north-east region.

AGRICULTURE

Mountainous terrain of Arunachal Pradesh is composed of a variety of tribes. Barring only 12 towns, entire area is rural where an overwhelming 94 per cent of its population lives scattered in 3,257 villages grouped under 48 integrated rural development blocks. Agriculture is the mainstay of the people, who by and large, follow a slash and burn method of shifting cultivation called *jhum* practised on rain-bed slopes of forest hills and dales. Cultivators constitute 35.33 per cent of the total population and they represent 72.29 per cent of the total number of workers engaged in different economic activities. About four per cent of the total geographical area was brought under agriculture till August 1987, while forests covered about 62 per cent of the area. Gross cropped area was 2,19,000 hectare, of which 52.52 per cent was under *jhum* and the rest under permanent cultivation wet-rice and terraced rain-fed cropping. Rice is the principal crop and other impor-

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tant crops are maize, millet, wheat, pulses, potato, sugarcane and oilseeds. Ecological conditions in Arunachal Pradesh are congenial for the growth of horticulture. Besides pineapple, orange, lemon, *lichi*, papaya, banana, guava, temperate fruits such as apple, plum, pear, peach, cherries, walnut, almond, etc., are grown in above 1,400 horticulture gardens. Gramsevak Training Centre and Farmers' Training Centre at Pasighat impart training in scientific methods of rural development and agriculture respectively.

MINERALS AND INDUSTRIES

Endowed with abundant forest, mineral and hydel power resources, Arunachal Pradesh has a high industrial potential. Coal reserve of the state comprising Namchik-Namphuk coal mine in Tirap district is estimated at about 900 lakh tonnes. This coal mine has been leased out to Coal India Limited for commercial exploitation. Estimated crude oil reserve is 15 lakh tonnes. Vast deposits of dolomite exist at Rupa in West Kameng district. Limestone deposits at Tidding in Lonit district indicates a reserve of 910 lakh tonnes. Limestone also occurs at Hunli in Dibang Valley district and Menga in Upper Subansiri district. These apart, occurrences of graphite, quartzite, kyanite, mica, iron and copper ores are also reported. Remarkable progress has been achieved in the field of cottage industries, of which weaving, basketry and carpetmaking merit particular mention. Small scale industries numbering 1,957 in 1990-91 comprise saw, rice and oil mills, fruit preservation, soap and candle manufacturing units, steel fabrication, wood works and so on. Medium industries 14 in number, are all forest-based, producing veneers, teachests and plyboards. Besides these, there are 25 sericulture centres. Important industries are light roofing sheet factory at Pasighat, fruit processing plant at Nigmoi in West Siang district, the cement plant at Tezu, lemon grass oil expeller unit at Tawang and Citronella distillation plant at Pasighat. An electronic unit has been set up at Itanagar for assembling television sets, quartz clocks, minimicrophones, radio etc. Technical education and training in middle-level engineering is imparted in Industrial Training Institute at Roing. There are 64 craft and weaving centres providing training facilities and producing utility articles which are marketed through a number of emporia. Industrial estates have been established at Itanagar, Nanarlagun, Pasighat and Deomali. Arunachal Pradesh Industrial Development and Financial Corporation Limited, Itanagar provides subsidised industrial loans to the small-scale and medium industries. Newly established North-Eastern Institute of Science and Technology (NirJuli), Itanagar is the first of its kind in this part of the country.

IRRIGATION AND POWER

Jhum fields on the slant of hills under shifting cultivation are rain-fed, patches of land under terrace and wet-rice cultivation, particularly in riverine tracts and along foothill belt, are irrigated usually by small gravity channels and diversion weirs. Pumping sets are also used for irrigation of small holdings. Under the minor irrigation project 50,455 hectare of land was brought under irrigation potential. Number of micro and small hydel stations commissioned

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till March 1986 was 22 with a total installed capacity of about 12,370 kw. Diesel sets are also used to meet power requirements and their total installed capacity during 1985-86 was about 5,705.50 kw In 1986, 27,760 kw of electricity was generated by the micro-hydel projects and 3,079 kw by the diesel sets. Electricity was extended to 1,308 villages upto 1990.

TRANSPORT

Arunachal Pradesh has 330 km of national highway. Daporijo, Pasighat, Tezu and Ziro are air linked by the Vayudoot service.

FESTIVALS

Major festivals are: *Losar, Khan, Nyokum, Orankum Garkuyo, Boori-Boot, Dree, Si-Donyi, Mopin, Solung Aran, Tamladu, Sahgken, Ren, Oriah, Loku, Ojiele and Mol.*

TOURIST CENTRES

Places of tourist interest are: Bomdila, Tawang and nearby largest Buddhist monastery in India, Itanagar with excavated ruins of historical Ita Fort and attractive Ganga Lake and Malinithan and Bhismaknagar are the two important archaeological sites, Pareaswramkund, a place of pilgrimage and Namdapha wildlife sanctuary in Changlang district.

GOVERNMENT

Governor	:	Surendranath Dwivedy
Chief Minister	:	Gegong Apang
Speaker	:	Lijum Ronya
Chief Secretary	:	Takap Ringu
Jurisdiction of High Court	:	Falls under the jurisdiction of the Guwahati High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

	District	Area	Population	Headquarters
1.	Changlang	N.A.	92,891	Changlang
2.	Dibang Valley	13,029	42,928	Anini
3.	East Kameng	4,131	50,238	Seppa
4.	East Siang	6,512	99,985	Pasighat
5.	Lohit	11,402	1,09,632	Tezu
6.	Lower Subansiri	13,010	1,54,591	Ziro
7.	Tawang	2,044	27,574	Tawang
8.	Tirap	7,024	85,210	Khonsa
9.	Upper Subansiri	7,032	49,163	Daporijo
10.	West Kameng	7,550	56,402	Bomdila
11.	West Siang	12,006	89,778	Along
12.	Paum Pare	—	—	Naharlagun (at present)

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ASSAM

Area :78,438 sq km	*Population* : 2,24,14,322
Capital :Dispur	*Principal Language* :Assamese

HISTORY AND GEOGRAPHY

The word Assam is derived from Sanskrit *asom* meaning peerless, judged by her exquisite natural beauty, cultural richness and human wealth. Assam has a rich legacy of culture and civilisation behind her. Being the homeland of different races of men: Austric, Mongolian, Dravidian and Aryan that came to dwell in her hills and valleys at different times, since remote antiquity, she has developed a composite culture of variegated colour.

Assam during the epic period was known as *Pragjyotisha* and later as *Kamrupa*: Naraka's son Bhagadutta took part in Kurukshetra war. The earliest epigraphic reference to the kingdom of Kamrupa is found in Allahabad pillar inscription of Samudragupta. Kamrupa is mentioned as a *Pratyanta* or frontier state outside the Gupta empire but with friendly and subordinate relation to it. Hiuen Tsang, Chinese scholar pilgrim who visited Kamrupa in about 743 AD on an invitation of its monarch Kumar Bhaskar Varman, left a record of the Kingdom he called Kamolupa. Kamrupa also figured in the writings of Arab historian Alberuni in the 11th century. Thus since the epic period down to the 12th century AD, the eastern frontier kingdom was known throughout *Arya Varta* both as Pragjyotisha and Kamrupa and kings called themselves 'Lord of Pragjyotisha.'

Advent of the *Ahoms* across eastern hills in 1228 AD was the turning point in Assam history. They ruled Assam upto 1826. Burmese entered through eastern borders and overran the territory at a time when court intrigues and dissensions were sapping the vitality of the Ahom royalty. The British appeared on the scene and by the Treaty of Yandabu in 1826, Burmese ceded Assam to the British.

Assam which is situated in north-east corner of India is surrounded by Bhutan and Arunachal Pradesh on north, Nagaland and Manipur on east, Meghalaya and Mizoram on south and Bangladesh, Tripura and West Bengal on west. Geographical area covered by Assam is 78,438 sq km comprising 23 districts with a population of 223 lakh in 1991 (provisional census record of 1991). Only a narrow strip of submountain region of the Himalayas connects Assam with the Indian mainland. Flat alluvial valley is drained by the mighty Brahmaputra. The great river originates in western Tibet which brings down 6,500 lakh cubic feet of very fertile silt annually which is deposited in the valley between the Himalaya massif and the Meghalaya plateau and thence in the vast tract of Bengal delta. The state's climate is of humid tropical type in the plains and sub-alpine in the hills.

AGRICULTURE

Agriculture covers slightly less then two third of labour force i.e., about 63 per cent of the state's working force are engaged in agriculture and allied

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activities. Principal food crop is rice. Cash crops are jute, tea, cotton, oilseeds, sugarcane, potato, etc. Major horticulture items are orange and other citrus fruits, banana, pineapple, arecanut, coconut, guava, mango, jackfruit, etc., which are grown on a smaller scale. The state has a gross cropped area of about 35 lakh hectare, more than 79 per cent accounting for foodgrain crops. Paddy alone covers about 26 lakh hectare. During 1992-93, the state has achieved a production of 25.93 lakh tonnes of foodgrains and 10.02 lakh tonnes of sugarcane. Area under forest, categorised as reserved forest coveres 17,581 sq km or roughly 22.41 per cent of the total area of the state. Unclassed forests cover 10,064 sq km.

INDUSTRY

Of agriculture-based industries, tea occupies an important place. A good share of the economy of the state has increasingly been contributed by the tea industry. Assam leads the country's tea producing states, both in terms of quantity and labour force. Tea gardens in the state occupy an area of about 2.25 lakh hectare. Assam contributes about 15 per cent of the world's entire tea production and Guwahati Tea Auction Centre has now become the biggest tea auction centre in the world for CTC tea. According to latest figures, Assam had the highest tea output in the country in 1987 producing 54.7 per cent of the entire tea output. In terms of quantity, Assam produced about 379.9 million kg of tea in 1990. Exploration, exploitation and refining of petroleum form bulk of the rest of the industries in the state. Cottage industries include handloom, sericulture, cane and bamboo articles, carpentry, brass and metal crafts. An export oriented handloom project has been established at Sualkuchi to exploit the potentiality of *Eri* and *Muga* silk textiles.

IRRIGATION AND POWER

Strategy so far adopted for irrigation development in the state was to mainly provide supplemental irrigation for *kharif* crops and also pre-kharif and *rabi*. The state has of late been ravaged by successive floods almost every year causing extensive damage to the kharif which is the main crop. A total of 4,54,426 hectare of irrigation potential have been created so far. Two major, five medium and 1,278 minor irrigation schemes have been completed in 1992-93.

The total installed capacity of power generation in Assam is 514.4 mw. Upto 1992-93, 21,481 villages of the state were electrified. An ambitious gascracker project and a few more thermal power plants are going to be set up in Assam by utilising the abundant natural gas available in the state.

TRANSPORT

ROADS

National highways are of 2,253 km and State highways 1,898 km PWD and other roads constitute a total length of 22,272 km. Assam State Transport Corporation (ASTC) operates nearly 600 different services covering a total

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length of over 1.16 lakh km. Private transport operators handle both passengers and goods traffic inside the state and at inter-state levels as well.

RAILWAYS

Railway link connecting Assam with the rest of India was established in 1950. At present, the length of the railway track in Assam is 2482.59 km, comprising both metre gauge and broad gauge lines. There are a number of long distance passenger trains connecting Guwahati with the rest of the country. The construction of the third bridge over Brahmaputra at Jogighopa-Pancharatna and the proposed BG-Railway line between Jogighopa and Guwahati are in progress.

AVIATION

There are six civil airports in the state operating regular air services. These are Borjhar (Guwahati), Salonibari (Tezpur), Mohanbari (Dibrugarh), Lilabari (Lakhimpur), Kumbhigram (Silchar) and Rowriah (Jorhat).

FESTIVALS

Assam has an exclusive range of colourful festivals. *Bihu* is the chief festival celebrated on three occasions. *Rangali Bihu or Bohag Bihu* marks the advent of the cropping season and ushers in the new year, *Bhogali Bihu* of the harvest festival and *Kangali* or *Kati Bihu* of lean period. Bihus are popular agricultural festivals.

Vaishnavites observe birth and death anniversaries of prominent Vaishnava saints through day-long singing of hymns and staging of *bhaonas* (theatrical performances in traditional style). *Ambubachi in sakta* shrines and *Sivaratri* in Siva temples are observed by most people. Sivaratri mela at Umananda and other places in Siva temples, *Asokastami* mela, *Rash mela, Parasuram mela, Ambubachi Mela, Durga puja* are the other religious festivals.

Population of Assam is a mosaic of different tribes like *Bodo Kacharis, Rabhas, Karbi, Mishing, Deuri,* Chutias, Dimasas, *Hmars, Lalungs*, etc. They have their own festivals. Some of them are: *Bathow, Kheraipuja, Rajni Gobra, Ali-ai-Ligang, Po-rag Bahagiya Visu, Baiskhu,* etc.

TOURIST CENTRES

Important places of tourist interest in and around Guwahati are Kamakhya temple, Umananda (Peacock Island), Navagraha (Temple of nine planets), Basistha Ashram, Gandhi Mandap, State zoo, State museum, Sukresuwar temple, Geeta Mandir, Madan Kamdev temple and Saraighat Bridge. In rest of the state-Kaziranga National Park (famous for one-horned rhino), Manas (tiger project), Sibsagar (Shiva temple), Tezpur (scenic beauty), Bhalukpung (angling), Haflong (health resort) with nearby Jatinga Hills, Majali (largest river island in the world), Chandubi Lake (Picnic spot), Hajo (meeting of Buddhism, Hinduism and Islam), Batadrava (with place of great Vaishnav Saint Sancardev) and Sualkuchi (famous for silk industry) are worth visiting.

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GOVERNMENT

Governor	:	Loknath Misra
Chief Minister	:	Hiteswar Saikia
Speaker	:	Debesh Chakarvarty
Chief Secretary	:	Harendra Nath Das
Chief Justice	:	Justice U.L. Bhat
Jurisdiction of High Court	:	All north-eastern states

AREA AND HEADQUARTERS OF DISTRICTS

	District	Area in sq km	Headquarters
1.	Dhubri	2,838	Dhubri
2.	Kokrajhar		Kokrajhar
3.	Bongaigaon	7,463	Bongaigoan
4.	Goalpara		Goalpara
5.	Barpeta	3,245	Barpeta
6.	Nalbari	2,257	Nalbari
7.	Kamrup	4,345	Guwahati
8.	Darrang	3,481	Mangaldoi
9.	Sonitpur	5,324	Tejpur
10.	Lakhimpur	2,277	North Lakhimpur
11.	Dhemaji	3,237	Dhemaji
12.	Marigaon		Marigaon
13.	Nagaon	5,535	Magaon
14.	Golaghat	3,502	Golaghat
15.	Jorhat	2,851	Jorhat
16.	Sibsagar	2,668	Sibsagarh
17.	Dibrugarh	3,381	Dibrugarh
18.	Tinsukia	3,790	Tinsukia
19.	Karbi-Anglong	10,434	Diphu
20.	North Cachar Hills	4,888	Haflong
21.	Karimganj	1,809	Karimganj
22.	Hailakandi	1,327	Hailakandi
23.	Cachar	3,786	Silchar

BIHAR

Area : 1,73,877 sq km — *Population:* 8,63,74,465
Capital : Patna — *Principal Language :* Hindi

HISTORY AND GEOGRAPHY

Bihar finds mention in the *Vedas, Puranas*, epics, etc. Bihar was the main scene of activities of Buddha and twenty four Jain *Thirthankaras*. Great rulers of the state before the Christian era were Bimbisar, Udayin, who founded the city of Pataliputra, Chandragupta Maurya and Emperor Ashoka of the Maurya dynasty, the Sungas and the Kanvas. Then came the Kushan rulers followed by Chandragupta Vikramaditya of the Gupta dynasty. During the medieval period Muslim rulers made there in-roads into the territory. The first to conquer Bihar was Mohammad bin-Bhakhtiyar Khalji. The Khaljis were

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followed by the Tughluqs and then the Mughals. Taking advantage of the disintegration of the Mughal empire, the British established their foothold in Bihar with the Battle of Plassey in 1757. Through successive battles and annexations, the British consolidated their position. Till 1911, Bihar formed part of the Bengal Presidency, when on 12 December 1911, a separate province of Bihar and Orissa was created. In 1936, Bihar was made a separate province. Bihar is one of the major states of the Indian Union. It is bounded on north by Nepal, on east by West Bengal, on west by Uttar Pradesh and Madhya Pradesh and on south by Orissa. Bihar has a number of rivers; the most important is Ganga, others are Sone, Poonpoon, Falgu, Karmanasa, Durgawali, Damodar, Subarnarekha, Baraker, Koel, Kosi, Gandak etc.

AGRICULTURE

Bihar has a total geographical area of about 173 lakh hectare out of which only 77 lakh hectare is the net cultivated area and gross cultivated area being about 105 lakh hectare. About 33 lakh hectare net area and 42 lakh hectare gross area receive irrigation from different sources. Gross area covered under foodgrains is about 95 lakh hectare and the remaining 102 lakh hectare gross area is covered by other crops. Cropping intensity is about 136 per cent. Principal foodgrains crops are paddy, wheat, maize and pulses. Main cash crops are sugarcane, potato, tobacco, oilseeds, onion, chillies, jute and mesta. Forests cover about 29 lakh hectare which is almost 17 per cent of the geographical area (As in 1990-91).

INDUSTRY AND MINERALS

In the core sector, Bihar has steel plants at Bokaro and Jamshedpur, sponge iron project at Chandil, copper complex at Ghatsila, coal mining industries, heavy engineering and forging plant at Ranchi, caustic soda plant at Garhwa Road (Palamau), fertilizers at Sindri, oilrefinery at Barauni and alloy steels at Patratu and Adityapur. Besides, the state has leading units manufacturing steel ropes, jellly-filled communication cables, high-tension insulators, watch factory, ceramic capacitors, smokeless coal, mineral processing, refractories, etc. at Ranchi. TV receivers, fruit processing, bulk drugs and formulation, etc. at Hajipur and micronised mica papers at Koderma. New projects with investment of nearly Rs 6,000 crore includes caprolactum, slag cement, carbon black, polyster, filament yarn, expansion and modernisation of TISCO, tapar roller bearing, mini steel plant, seamless steel tubes, vanaspati *ghee*, expansion and modernisation of sugar mills, new sugar factory, colour coated aluminium sheets and coils, acetic acid, ferrites, industrial alcohol, transformer oil, baker's yeast, granite cutting and polishing, lactic acid, spinning cooperative mills, titanium dioxide, micro-crystalline wax, mini-steel blast furnace, etc.

Bihar is renowned for its rich mineral resources *viz*, coal, mica, copper ore, uranium, limestone, china clay, fire clay, bauxite, kyanite, etc. This state has been the pioneer producer of important industrial minerals such

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as coal, mica, bauxite, iron ore, copper ore, uranium ore, iron and pyrite (sulphur). It is the sole producer of cooking coal, pyrites and uranium.

Bihar continues to be one of the leading mineral producing states, if petroleum from Bombay High and elsewhere is excluded. Bihar continues to be leading producer of coal (34.5 per cent) and mica (54.8 per cent). The state occupies the second position in production of Kyanite (44.9 per cent), bauxite (17.3 per cent), and also the third position in production of copper ore (24.2 per cent), fire-clay (10.4 per cent) and graphite (8.9 per cent).

IRRIGATION AND POWER

Bihar has an outline irrigation potential of 91.64 lakh hectare of which 65 lakh hectare could be realised through major and medium irrigation projects and 26.64 lakh hectare through minor irrigation schemes. However, upto 1991-92, this potential had been created only upto the extent of 27.35 lakh hectare through major and medium schemes of which utilisation has been 24.60 lakh hectare. By the end of the Eighth Plan, an irrigation potential in an area of 30.70 lakh hectare is estimated to be created of which utilisation would be 28.70 lakh hectare.

Major power projects are Patratu thermal power station, Barauni thermal power station, Muzaffarpur thermal power station,Subarnarekha hydel power station and Kosi hydel power station under the Bihar State Electricity Board and Bokaro, Chandrapura and Durgapur thermal power stations along with Tilaiya, Maithon and Panchet hydel power stations under Damodar Valley Corporation. The five generating stations have an installed capacity of electrifying 1,542.70 villages, electrified 46,648 villages besides 2,61,540 pumpsets energised by March 1992.

TRANSPORT

ROADS

Upto March 1990, Bihar had 33,825 km of metalled road excluding urban road, out of which national highway consitutes 2,118 km and 48,826 km of unmetalled roads. To strengthen road communication system, a number of major bridges are being constructed on important routes. A notable achievement is the opening of road bridge on Gandak river at Hajipur to traffic. Dumarighat bridge over river Kosi is also now open to traffic.

RAILWAYS

Bihar has a fairly good railway network. Communication to north Bihar is difficult as there is only one railway bridge at Mokameh. A few railway routes connecting important places like Muzaffarpur-Samastipur-Barauni-Kotihar and Muzaffarpur-Chapra-Siwan have been converted into broad gauge. The main rail junctions are at Patna, Dhanbad, Gaya, Mazaffarpur, Barauni, Katihar, Samastipur, etc.

AVIATION

There are airports at Patna, Ranchi, Jamshedpur and Gaya. Jamshedpur and Gaya are served by Vayudoot service. This has been temporarily suspended.

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TOURIST CENTRES

Important places of tourist interest are: Rajgir (pilgrim centre); Bodh Gaya (most sacred pilgrim place for Buddhists); Gaya (centre of pilgrimage for Hindus); Nalanda (ruins of the world's earliest Budhist university): Vaishali (the seat of the first Repubilic of the world in sixth century BC); Pawapuri (where Lord Mahavir breathed his last); Ranchi (waterfalls and scenic beauty); Jamshedpur (steel city); Hazaribagh (wildlife reserve famous for its National Park); Betla (Palamau National Park); Bhimbandh (hot water springs); Maner (sacred Muslim shrines of Sufi saint Hazarat Makhdoom Shah); Vikramshila (ruins of another Buddhist university); Topchanchi (scenic value); Deoghar (Hindu shrines); Patna (ancient city of Pataliputra) and Sasaram (tomb of Shershah Suri).

GOVERNMENT

Governor	:	Mohammed Shafi Quereshi
Chief Minister	:	Laloo Prasad
Speaker	:	Ghulam Sarwar
Chief Secretary	:	Arun Pathak
Chief Justice	:	Justice B.C. Basak
Jurisdiction of High Court.	:	Bihar

AREA , POPULATION AND HEADQUARTERS OF DISTRICT

Sl. No.	Distict	Area in sq km	Population (1991 Census)	Headquarters
1.	Araria	2,789	16,11,638	Araria
2.	Aurangabad	3305	15,39,988	Aurangabad
3.	Begusarai	1918	18,14,773	Begusarai
4.	Bhagalpur	5589	32,02,471	Bhagalpur
5.	Bhojpur	4098	28,80,447	Arrah
6.	Darbhanga	2279	25,10,959	Darbhanga
7.	Deoghar	2479	9,33,113	Deoghar
8.	Dhanbad	2996	2,674,651	Dhanbad
9.	Dumka	6212	14,95,709	Dumka
10.	East Champaran	3968	30,43,061	Motihari
11.	East Singhbhum	3533	16,13,038	Jamshedpur
12.	Gaya	4976	26,64,803	Gaya
13.	Giridih	6892	22,25,480	Giridih
14.	Godda	2110	8,61,182	Godda
15.	Gopalganj	2033	17,04,310	Gopalganj
16.	Gumla	9077	11,53,976	Gumla
17.	Hazaribagh	11165	28,43,544	Hazaribagh
18.	Jahanabad	1569	11,74,900	Jahanabad
19.	Katihar	3057	18,25,380	Katihar
20.	Khagaria	1486	9,87,227	Khagaria
21.	Kishanganj	1938	9,84,107	Kishanganj
22.	Lohardagga	1491	2,88,886	Lohardagga
23.	Madhepura	1788	11,77,706	Madhepura
24.	Madhubani	3501	28,32,024	Madhubani
25.	Munger	6422	30,60,027	Munger

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Sl. No.	Distict	Area in sq km	Population (1991 Census)	Headquarters
26.	Muzaffarpur	3172	29,53,903	Muzaffarpur
27.	Nalanda	2367	19,97,995	Biharsharif
28.	Nawada	2494	13,59,694	Nawada
29.	Palamu	12749	24, 51,191	Daltonganj
30.	Patna	3202	36,18,211	Patna
31.	Purnia	3216	18,78,885	Purnia
32.	Ranchi	7698	22,14,048	Ranchi
33.	Rohtas	7213	29,00,685	Sasaram
34.	Saharsa	4112	24,75,254	Saharsa
35.	Sahebganj	3405	13,01,088	Sahebganj
36.	Samastipur	2904	27,16,929	Samastipur
37.	Saran	2641	25,72,980	Chapra.
38.	Sitamarhi	2643	23,91,495	Dumra (Sitamarhi)
39.	Siwan	2219	21,70,971	Siwan
40.	Vaishali	2036	21,46,065	Hajpur
41.	West Champaram	5228	23,33,666	Bettiah
42.	West Singhbhun	9907	17,37,955	Chaibasa

GOA

Area: 3,702 sq km — *Population:* 11,68,622
Capital: Panaji — *Principal Languages:* Konkani and Marathi

HISTORY AND GEOGRAPHY

Goa, known in the bygone days as Gomanchala, Gopakapattam, Gopakapuri, Gomantak, etc., abounds in a rich historical heritage. Early history of Goa is obscure. In the first century of Christian era, Goa was part of the Satvahana empire followed by the Kadambas, the Rashtrakutas of Malkhed, the Chalukyas and the Silahars. The empire of the Yadavas by the end of the 14th century was displaced by the Khaljis of Delhi and thus the Muslim rule came to Goa. After the discovery of the sea route to India by Vasco-da-Gamma in 1498, many Portuguese expeditions came to India. In 1510, Afonso da Albuqerque with the help of the emperor of Vijayanagar attacked and captured Goa. With the arrival of the great Jesuit saint Francisco Xavier in 1542, began proselytisation in Goa. However, the Portuguese continued to rule over the territory except for an interlude during the later half of the 17th century when Shivaji conquered a few areas in and around Goa.

Even after the Indian independence, Goa continued to be in the hands of the Portuguese. However, they could not fulfil the aspirations of Goan people and ultimately on 16 December 1961 Goa was liberated and made a composite union teritory with Daman and Diu. On 30 May 1987 Goa was conferred statehood and Daman and Diu made a separate union territory. Goa is situated on western coast of Indian peninsula. On its north runs the Terekhol river which separates Goa from Maharashtra and on south lies North Canara district of Karnataka. On east lie the Western Ghats and the Arabian Sea in west.

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DAWN OF A NEW ERA ON THE HORIZON OF GOA-----

Goa------ The Youngest State of the Indian Union, is poised for an era of peace and harmony, prosperity and progress under the able leadership of Dr. Wilfred De Souza.

Known for his sincerity, integrity, intelligence and efficiency, the qualities of a perfect man, Goans are proud of this worthy son of Goa.

Under his leadership in a short span, Goa is committed to:

* A clean and efficient Government.
* PM's Rojgar Yojana to provide self-employment to 200 youth.
* Mahila Samriddhi Yojana to render economic stability to housewives.
* Law and order situation under control.
* Boosting up of Goa's agricultural economy through the inception of Crops Plantation Corporation.
* Protection to Goa's agrarian sector.
* Strict regulation of land conversion thereby safeguarding the interests of the posterity.
* Commitment towards fulfilment of aspirations of the people of Goa.
* Preservation of Goa's identity.
* Non-polluting industries being planned for each panchayat for large scale employment to rural youth.
* Protection to wild-life, forests and environment.
* Introduction of Panchayat Bill to strengthen Local Self-Government bodies.
* Tapping of tourism potential for the development of Goa.
* Four communities to be notified as Scheduled Tribes benefitting over a lakh of people.
* Anti-poverty programmes for the benefit of weaker sections.
* Common man involved in the development process more than in the past.
* Stress on vocational and technical education to meet manpower needs of industries.
* Housing Policy declared to provide houses to all by 2000 A.D.
* Health for All—More Sub-Centres and upgradation of Primary Health Centres with improved health facilities.
* Artisanship revived with financial and other incentives.
* New bridges and roads to strenghten communication network.

ISSUED BY :

DEPARTMENT OF
INFORMATION
AND PUBLICITY,
GOVERNMENT OF GOA,
PANAJI - GOA.

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AGRICULTURE

Rice is the main food crop. Pulses, *ragi* and other food crops are also grown. Main cash crops are coconut, cashewnut, arecanut, sugarcane and fruits like pineapple, mango and banana. Goa produces 2,10,658 tonnes of paddy and 88,000 tonnes of sugarcane. The state has rich forest cover of more than 1,05,294 hectare.

IRRIGATION AND POWER

With the partly commissioning of dams like Selaulim and Anjunem and other minor irrigation projects, area under irrigation is rising steadily. Work on Tillari dam has also been taken up. Total potential created by these irrigation projects till now is 32,094 hectare. All villages have been electrified leading to cent per cent coverage.

INDUSTRY AND MINERALS

The state has 5,242 small scale industrial units with total investment of Rs 113.51 crore and employment opportunities for 32,597 persons. In large and medium sector there are 52 units with total investment of Rs 302.68 crore employing 10,346 persons. There are 10 industrial estates besides a new electronic city coming up in the state. Mineral products are ferro-manganese, bauxite and iron ore contributing substantially to the economy of the state through exports.

TRANSPORT

ROADS

Of the motorable roads, national highway constitutes 224 km, state highway 232 km and district roads 815 km.

RAILWAYS

A broad gauge line between Pune-Bangalore, links Goa with the rest of the country. The proposed Konkan Railway will pass through Goa.

AVIATION

Bombay, Delhi, Thiruvananthapuram, Hyderabad and Bangalore are air-linked with Dabolim through regular Indian Airlines/Vayudoot service.

PORTS

Panaji and Marmugao are the two main ports in the state. Marmugao handles cargo vessels, other major ports are Margao, Mapusa and Ponda.

TOURIST CENTRES

Important tourist centres are: Colva, Calangute, Vagator; Harmal, Anjuna and Miramar beaches; Basilica of Bom Jesus and Se Cathedral churches at old Goa; Kavalem, Mardol, Mangueshi and Bandora temples; Aguada, Terekhol, Chapora and Cabo de Rama Forts; Dudhsagar and Harvalem waterfalls and Mayem lake resort. The state has rich wildlife sanctuaries *viz.* Bondla, Cotigao and Molem wildlife sanctuaries and Dr. Salim Ali bird sanctuary covering an area of 354 sq km.

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GOVERNMENT

Governor	:	Bhanu Prakash Singh
Chief Minister	:	Dr. Wilfred de Souza
Speaker	:	Shaikh Hassan
Chief Secretary	:	P.S. Bhatnagar
Jurisdiction of High Court	:	Falls under Bombay High Court.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area	Population	Headquarters
North Goa	1,713	6,63,773	Panaji
South Goa	1,948	5,04,849	Margao

GUJARAT

Area: 1,96,024 sq km *Population:* 4,13,09,582
Capital: Gandhinagar *Principal Language:* Gujarati

HISTORY AND GEOGRAPHY

History of Gujarat goes back to 2,000 BC. It is also believed that Lord Krishna left Mathura to settle on the west coast of Saurashtra which, later came to be known as Dwarka, the gateway. Later, it saw various kingdoms; Mauryans, Guptas, Patiharas and others. It was with Chalukyas (Solankis) that Gujarat witnessed progress and prosperity. Inspite of the plunderings of Mahmud of Ghazni, the Chalukyan kings were able to maintain general prosperity and well-being of the state. After this glorious respite, Gujarat faced troubled times under the Muslims, Marathas and the British rulers.

Gujarat played an important role in the freedom movement with Gandhiji at the helm of affairs. Before independence, present territories of Gujarat were divided mainly into two parts: the British and the princely territories. With the reorganisation of the states, the Union of the States of Saurashtra and the Union Territory of Kachchh along with the former British Gujarat became a part of the bilingual state of Bombay. The present state of Gujarat came into being on I May 1960. It is situated on the west coast of India. The state is bounded by the Arabian Sea on west, Pakistan and Rajasthan in north and east respectively, Madhya Pradesh in south-east and Maharashtra in south.

AGRICULTURE

Gujarat ranks first in the country in the production of tobacco, cotton and groundnut which have found good markets and provide a foundation for important industries like textiles, oil and soap. Other important cash crops are *isabgol*, cumin, sugarcane, mangoes and bananas. Chief food crops are paddy, wheat and *bajra*. Forest species available in Gujarat are teak, *khair, sadad, haldarvo* and *Manval* bamboos. The state has four national parks and eleven sanctuaries.

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IRRIGATION

The ultimate irrigation potential through surface water as per latest estimate is assessed at 39.4 lakh hectare including 17.92 lakh hectare through Sardar Sarovar Project and maximum utilisation works out to 9.63 lakh hectare. The ultimate irrigation potential including ground water as reassessed, is 64.88 lakh hectare. The total maximum utilisation is reassessed at 26.09 lakh hectare. The ratio of actual irrigation potential in the state has improved from 76 per cent to 81 per cent.

INDUSTRY

Gujarat is recognised as one of the leading industrialised state in the country. There are 1,200 large and medium and 1,40,000 small scale industrial units. Principal industries are textiles, chemicals and petro-chemicals, pharmaceuticals, dyes, fertilizers, cement, dairy, sugar, engineering, etc. India's largest petrochemical complex of IPCL and Gujarat Oil Refinery are located near Baroda, which have led to considerable development of petro-chemical industries in this area. Gujarat tops the list in the projects under implementation in mining and manufacturing sector with per capita investment of Rs 11,009 compared to the all India average of Rs 4,090. Important projects under implementation include petro-chemicals complex by IPCL near Dahej and by Reliance near Hajira, refinery project by Reliance near Jamnagar, steel complex by Essar Gujarat near Hajira and so on. Gujarat has also attracted non-resident Indians and has been successful in establishing 272 projects for NRIs. There are at present 758 projects, each having investment above Rs 5 crore under implementation with aggregate investment of Rs 46,780 crore.

TRANSPORT

ROADS

The state has approximately 68,244 km of roads. The first express way of the nation is under construction between Ahmadabad and Vadodara.

AVIATION

The main airport of Gujarat is at Ahmadabad which is connected with Bombay, Delhi and other cities by five daily services. Now Ahmadabad airport has got the status of an international airport. The state has eight other airports: Vadodara, Bhavnagar, Bhuj, Jamnagar, Kandla, Keshod, Porbandar and Rajkot. Ahmadabad, Bhavangar, Kandla, Keshod, Porbandar and Surat have been linked by Vayudoot service. The Ferry Service between Surat and Ghogha, first of its kind in the country, has already been started.

PORTS

Gujarat has 40 ports of which Kandla is a major one. The Kandla Port has occupied a leading position in the country by achieving the target of 2.10 crore tonnes and by earning the foreign exchange worth Rs 164 crore in 1991-92. The Kandla Free Trade Zone first of its kind in the country, had surpassed the target of Rs 413 crore by exporting goods worth Rs 427 crore

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during the same year. In the hard currency area, export was Rs 86.11 crore *i.e.* 20 per cent of the total export.

FESTIVALS

Tarnetar fair in honour of Lord Shiva at Tarnetar village is held on the 4, 5 and 6 of the bright half of the month of *Bahadrapada* (August/September). *Madhavrai* fair celebrates the marriage by elopement of Lord Krishna and Rukmini, every year on the ninth day of the bright half of the month of *Chaitra* (March/April) the incident is re-enacted. The venue is Madhavpur near Porbandar. *Ambaji* fair dedicated to Amba, mother goddess, in Banaskantha district in north Gujarat is another popular festival. *Janmashtami* or the birthday of Lord Krishna is celebrated with great enthusiasm in Dwarka and the biggest fair of the year is held here to mark the event. Other festivals are *Makar Sankranti, Navratri, Dangi darbar, Shamlaji* and *Bhavanath* fairs etc.

TOURIST CENTRES

Religious spots like Dwarka, Somnath, Palitana, Pavagadh, Ambaji, Bhadreshwar, Shamlaji, Taranga and Girnar; Porbandar, birthplace of Mahatma Gandhi; places of memorable monuments of architectural and archaeological surprises like Patana, Siddhpur Ghumli, Dabhoi, Vadnagar, Modhera, Lothal and Ahmadabad; beautiful beaches like Ahmedpur-Mandvi, Chorwad, Ubharat and Tithal; Hill Station Saputara; Lion Sanctuary of Gir Forest and Wild Ass Sanctuary in Kutch area are major tourist attractions in the state.

GOVERNMENT

Governor	:	Dr Sarup Singh
Chief Minister	:	Chimanbhai Patel
Speaker	:	Himatlal Mulani
Chief Secretary	:	KV Hari Har Das
Chief Justice	:	Sundaram Nainar Sundaram
Jurisdiction of High Court	:	Gujarat

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq.km)	Population	Headquarters
1 Ahmadabad	8,707	48,01,812	Ahmadabad
2 Amreli	6,760	12,52,589	Amreli
3 Banaskantha	12,703	21,62,578	Palanpur
4 Bharuch	9,038	15,46,145	Bharuch
5 Bhavnagar	11,155	22,92,026	Bhavnagar
6 Gandhinagar	649	4,08,992	Gandhinagar
7 Jamnagar	14,125	15,63,558	Jamnagar
8 Junagadh	10,607	23,94,859	Junagadh

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District		Area (sq km)	Population	Headquarters
9	Kutch	45,652	12,62,507	Bhuj
10	Kheda	7,194	34,40,897	Kheda
11	Mehsana	9,027	29,37,870	Mehsana
12	Panchmahals	8,866	29,56,458	Godhara
13	Rajkot	11,203	25,14,122	Rajkot
14	Sabarkantha	7,390	17,61,086	Himatnagar
15	Surat	7,657	33,97,900	Surat
16	Surendranagar	10,489	12,08,872	Surendranagar
17	Dang	1,764	1,44,091	Ahwa
18	Vadodara	7,794	30,89,610	Vadodara
19	Valsad	5,244	21,73,672	Valsad

HARYANA

Area : 44,212 sq km
Capital : Chandigarh
Populaltion : 1,64,63,648
Principal Language : Hindi

HISTORY AND GEOGRAPHY

Haryana has a proud history going back to the Vedic age. The state was the home of the legendary *Bharata* dynasty, which has given the name *Bharat* to India. Haryana finds a mention in the great epic of *Mahabharata,* Kurukshetra, the scene of the epic battle between the Kaurvas and the Pandavas, is situated in Haryana. The state continued to play a leading part in the history of India till the advent of the Muslims and the rise of Delhi as the imperial capital of India. Thereafter, Haryana functioned as an adjunct to Delhi and practically remained anonymous till the First War of India's Independence in 1857. When the rebellion was crushed and the British administration was re-established, the Nawabs of Jhajjar and Bahadurgarh, the Raja of Ballabgarh and Rao Tula Ram of Rewari of the Haryana region were deprived of their territories. Their territories were either merged with the British territories or handed over to the rulers of Patiala, Nabha and Jind. Haryana, thus, became a part of the Punjab province. With the reorganisation of Punjab on 1November 1966, certain areas belonging to it were included in Haryana and on 1 November 1966, Haryana was made into a full-fledged state. The state is bounded by Uttar Pradesh in east, Punjab in west, Himachal Pradesh in north and Rajasthan in south. Union Territory of Delhi juts into Haryana.

Haryana can be divided into two natural areas, sub-Himalayan *Teraii* and Indo-Gangetic plain. The plain is fertile and slopes from north to south with a height above the sea level, averaging between 700 and 900 ft. South-west of Haryana is dry, sandy and barren. Haryana has no perennial river. The only river which flows through Haryana is the Ghaggar, which passes through northern fringes of the state. For most of the year, climate of Haryana is of a pronounced character-very hot in summer and markedly cold in winter.

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AGRICULTURE

Haryana is primarily an agriculture state. About 80 per cent of its people depend on agriculture for their livelihood. Various measures have been taken to raise the standard of living of its farmers. Haryana is the first state which has written off the interest on the cooperative loans of the last seven years. It also raised the price of sugarcane from Rs 46 to 50 per quintal during 1992-93. The state has witnessed a phenomenal increase in agricultural output. Foodgrains production had a quantum jump from 25.92 lakh tonnes in 1966 to 91 lakh tonnes in 1991-92. Today, Haryana is not only self-sufficient in foodgrains production but also among the top contributors of foodgrains to the Central pool which stands at 30-35 lakh tonnes.

INDUSTRY

The state has a very sound industrial base. Small-scale units have increased from 4,519 in 1966 to more than 1.10 lakh now. Haryana products the largest number of tractors in the country. One out of every four bicyles is manufactured here besides around one-third of the country's production of sanitarywares. Panipat has earned the reputation of being the 'weavers city' of India for its exquisite hand-tufted woollen carpets and colourful handloom products. There are 519 large and medium scale units in the state. Greater emphasis is being laid on dispersal of industries in rural areas. Under this scheme 43,666 units have been set up manufacturing a wide range of products employing 1,09,173 persons.

IRRIGATION AND POWER

Haryana is a beneficiary of the multi-purpose project on Sutlej and Beas, where it shares benefits with Punjab and Rajasthan. Major irrigation projects are Western Yamuna Canal, Bhakra Canal System and Gurgaon Canal. The water had to be raised from lower levels to higher and drier slopes in the state. It is a bold new endeavour that gave practical shape to the lift irrigation for the first time in India. The state has completed Jui, Loharu and Sewani lift irrigation schemes. Jawaharlal Nehru Irrigation Scheme, the biggest of its kind shall be completed soon. Canal irrigated area during 1966-67 was 13.25 lakh hectare which has now increased to 20.20 lakh hectare during 1991-92.

For improving irrigation in Haryana by conserving water, the lining of canals was proposed to be undertaken under canal modernisation project with World Bank aid in three phases. In phase-I from 1978-83, an area of 265 m.sft at an outlay of Rs 87.40 crore has been lined, resulting in saving of 1.122 cusecs of water and creation of 1.02 lakh hectare additional irrigation potential. The work on modernisation of canals in phase-II was taken up in March 1983 and the lining of 257 m.sft area at an outlay of Rs 209 crore has been done by March 1992, resulting in saving of 1.084 cusecs of water. In continuation of phase-I and phase-II programme, the work on

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lining of channels is proposed to be continued under the World Bank aided National Water Management Project (NWMP). An unlined area of 80.10 m.sft with an estimated cost of Rs 105.60 crore is proposed to be lined during 1992-93 resulting in saving seepage losses to the extent of 433 cusecs of water.

Power generation and distribution systems have been augmented manifold. Consumption of power, which was 17 lakh units a day in 1966, is now around 270 lakh units a day. Installed capacity of power has risen from 343 mw to 2,273 mw. Similarly, circuit length of transmission and distribution lines has now grown to 1,57,140 km from mere 18,664 km in 1967. Number of grid sub-stations, including pole mounting sub-stations in the state, has risen from 5,437 to 75,900. In rural electrification, Haryana has an impressive record of being the first state to have electrified all its villages. It has also achieved cent per cent electrification of *Harijan bastis* much ahead of all other states in the country.

RURAL WATER SUPPLY

Haryana has not been very fortunate in having easy access of water. Most of its villages had no source of clean and safe drinking water before. For more than 50 per cent of the total population of Haryana, clean drinking water was indeed a dream. Drinking water supply through taps has now been taken to villages. In the year of formation of Haryana only 170 problem villages out of a total of 5,686 had access to safe drinking water. Today Haryana is the first state in the country which has provided piped drinking water to all its 6,745 villages.

TRANSPORT

ROADS

Haryana has 22,073 km of motorable roads of which only 2,000 km are unmetalled. The total length of national highway is 655 km.

RAILWAYS

There is no major railway station in Haryana. Rail routes from Delhi to Agra, Ajmer, Ferozepur and Chandigarh cross through the state. Of the railway stations, Ambala, Panipat and Kurukshetra are important.

AVIATION

Delhi and Chandigarh airports on eastern and northern boundaries link the state with other major national and international stations. On the formation of Haryana, there was only one flying club at Hissar with a *Kuccha* runway, which the state got as its share. At present, there are six civil aerodromes, a *kuccha* airstrip at Jind and Hissar, Karnal, Pinjore, Narnaul and Bhiwani with all weather *pucca* runways.

TOURIST CENTRES

There are 43 tourist complexes in Haryana, majority of them have been named after birds. Some of the tourist complexes are: Badkhal Lake, Dab-

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chick (Hodal), *Jungle* Babbler (Dharuhera), Karna Lake (Uchana), Kela Teetar (Abubshehr), Kingfisher (Ambala), Parakeet (Pipli-Kurukshetra), Magpie (Faridabad), Rajhans (Surajkund), Skylark (Panipat), Sohna, Sultanpur bird-sanctuary (Sultanpur), Surajkund and Yadvindra Garden (Pinjore).

GOVERNMENT

Governor	:	Dhanik Lal Mandal
Chief Minister	:	Bhajan Lal
Speaker	:	Ishwar Singh
Chief Secretary	:	Brahm Swarup Ojha
Chief Justice	:	Justice S.D. Aggarwala
Jurisdiction of High Court	:	Punjab and Haryana.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

	District	Area (sq km)	Population	Headquarters
1.	Ambala	2385	11,16,878	Ambala
2.	Bhiwani	5140	11,39,718	Bhiwani
3.	Faridabad	2760	14,77,240	Faridabad
4.	Gurgaon	2105	11,46,090	Gurgaon
5.	Hissar	6279	18,44,634	Hissar
6.	Jind	2736	9,63,104	Jind
7.	Kaithal	2799	8,20,685	Kaithal
8.	Karnal	1967	8,85,797	Karnal
9.	Kurukshetra	1217	6,41,943	Kurukshetra
10.	Mahendragarh	1683	6,81,869	Narnaul
11.	Panipat	1754	8,33,501	Panipat
12.	Rewari	1559	6,23,301	Rewari
13.	Rohtak	4411	18,08,606	Rohtak
14.	Sirsa	4276	9,03,536	Sirsa
15.	Sonepat	1385	7,54,866	Sonepat
16.	Yamunanagar	1756	8,21,880	Yamunanagar

HIMACHAL PRADESH

Area: 55,673 sq km
Capital: Shimla
Population: 51,70,877
Principal Languages: Hindi and Pahari

HISTORY AND GEOGRAPHY

The earliest known inhabitants of the region were tribals called *Dasas*. Later, Aryans came and they assimilated the tribes. In the later centuries, the hill chieftains accepted the suzerainty of the Mauryan empire, the Kushans, the Guptas and Kanauj rulers. During the Mughal period, the *Rajas* of the hill states made some mutually agreed arrangements which governed their relations. In the 19th century, Ranjit Singh annexed or subjugated many of the states. When the British came, they defeated Gorkhas and entered into treaties with some *Rajas* and annexed the kingdoms of others. The situation

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more or less remained unchanged till 1947. After Independence, 30 princely states of the area were united and the present Himachal Pradesh was formed on 15 April 1948. With the reorganisation of Punjab on 1 November 1966 certain areas belonging to it were included in Himachal Pradesh. On 25 January 1971, Himachal Pradesh was made a full-fledged state. The state is bordered by Jammu and Kashmir on north, Punjab on west and south-west, Haryana on south, Uttar Pradesh on south-east and by Tibet on east.

AGRICULTURE

Himachal Pradesh has predominantly agro-pastoral economy. Over three-fourth of its working population is directly engaged in these sectors. Holdings are marginal with over 80 per cent farmers falling in small and marginal category and the net integrated area accounts for one-fifth (20 per cent) of the net sown area. Diverse agro-climatic conditions afford excellent opportunities for horticulture and cash crops. Returns to farmer per unit of area have been maximised by significant shifts in cropping patterns. Fruit production in the state has crossed the four lakh tonne mark. Vegetable production, mainly off-season vegetables is also being encouraged. Large scale expansion of mushroom cultivation has been undertaken. On-farm activities are being supplemented by improvement in milch cattle through a cross-breeding programme, rabbitry, pisciculture and floriculture. Apart from the largest fruit processing plant in this part of the world having already been located and commissioned, a corrugated card board carton factory has also been established for making fruit and vegetable packing more scientific and attractive besides reducing consumption of coniferous timber. Forests occupy about 68 per cent of the area.

INDUSTRY

The state adopted a new industrial policy in 1991 which aims at rapid, balanced and simultaneous growth of cottage, tiny, small, medium and large industries and service establishments in a well dispersed manner. Priority is now given to industries based on agro-horticulture produce, herbal resources, wool and sericulture and electronics industries. It now has 139 large and medium units and 21,000 small scale units which provide employment to over 94,000 persons. It has set up 16 industrial areas and five industrial estates. Apart from a brewery at Solan in private sector, there are two big cement plants. A few more big and small plants are being set up. One of the biggest fruit processing plants in Asia at Parwanoo is in operation. An electronics complex is being developed at Shoghi near Shimla. In small scale sector, microscopes, watch parts, clinical and industrial thermometers, hospital and heating equipment, etc., are being manufactured. Among village industries are sheep-rearing, wood carving, blacksmithy, spinning, weaving, leather tanning, pottery, handloom handicrafts and bamboo craft. Important minerals of the state are rock salt, gypsum, limestone, baryte, dolomite and pyrite. Foundation stone of Rs 270 crore cement plant was laid in August 1992

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HIMACHAL PRADESH TAKES A PIONEERING LEAD IN DEVELOPMENT OF TOURISM

* New package of incentives to tourism industry announced. Tourism incentives patterned on incentives announced by H.P. Industries Department with some inevitable departures in view of inherent nature of tourism industry.
* Category 'A' areas comprising most backward regions from tourism point of view command maximum incentives. Category 'B' areas surrounding and having proximity to category 'C' areas command medium level incentives. Category 'C' areas comprising most saturated regions command least incentives.
* Tourism units with capital investment up to Rs. 10 lakh come under 'Tiny Tourism Unit', up to Rs. 60 lakh under 'Small Scale Unit' and more than Rs.60 lakh under 'Large Scale Tourism Unit'. Units having fixed capital investment of Rs. 10 crore or more and employing at least 200 persons come under 'Prestigious Tourism Unit'.
* 'Pioneering Tourism Unit' includes any first seven large scale units set up in category 'A' areas, first five large scale units set up in category 'B' areas and any first large scale unit set up in category 'C' areas which go into commercial operation on or before appointed day and employ at least 50 persons.
* Priority given to projects covering tourism resorts, training institutions, sports activities, adventure and related activities, camp tourism, ropeways, amusement parks and lake/river cruises.
* Exemption from levy of Entertainment Duty made available to Tourism Amusement Unit up to 90% for the first five years from the date of commencement of operations and up to 50% for the next five years.
* Exemption limit for luxury tax proposed to be raised from the existing Rs. 25 to Rs. 100 per bed per day. Assessment of tax to be done on actual occupancy basis.
* Publicity assistance proposed to be provided to travel agents, tour operators and tourism units up to Rs. 50,000 a year.
* Aviation turbine fuel sold in Himachal to any operator running helicopter/ aircraft flights to any airport in the State to be exempted from levy of Sales Tax and surcharge thereon for a period of two years from the appointed day.
* Efforts being made to fully exploit tourism potential of Gobind Sagar, Pong Dam, Pandoh and Chamera Reservoirs for development of aqua-tourism.

NEW TOURISM POLICY PROVIDES INCENTIVES FOR DISPERSAL OF TOURISM PROMOTION ACTIVITIES TO ALL IRRESISTIBLE AREAS OF THE STATE

JOIN HANDS IN ENDEAVOURS OF THE STATE TO OPEN ITS RICH TREASURES TO TOURISTS

HIM LOK SAMPARK

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at Darlaghat in Solan district. This factory will be set up in private sector having a capacity of 10 lakh tonnes per year. This factory will provide direct and indirect employment to over 3,000 persons.

IRRIGATION AND POWER

The state has limited scope for major and medium irrigation projects. Two medium irrigation projects, namely, Giri Bata and Bhabour Sahib-I have been commissioned and two more Balh and Bahabour Sahib-II, are nearing completion. Innumerable minor irrigation schemes now cover an area of over 1.50 lakh hectare in the state. The state is endowed with enormous hydel potential of 20,000 mw. The state government has taken to selective privatisation for its speedy exploitation. Speedy exploitation of vast hydel potential can make the state financially viable and also meet yawning deficit in energy availability in the northen region. The state with its limited resources has commissioned Bassi (60 mw), Giri (60 mw), Binwa (6 mw), Andhara (16.95 mw), Bhaba Sanjay Viduat Pariyojana (120 mw), Rong-Tong (2 mw) and a few other micro installations. Work on prestigious Nathpa-Jhakri (1,500 mw) has also begun in joint sector. Gaj (10.5 mw), Baner (12 mw) and Thirot (4.5 mw) would be commissioned soon. Memoranda of understanding in respect of Uhal-III (70 mw) and Ghanvi (22.5 mw) and agreement for execution in respect of Baspa-II (300 mw) have been signed with private parties. The state has achieved cent per cent rural electrification. During the year 1992, a memoranda of understanding was signed between the government of Himachal Pradesh, Haryana, Rajasthan, Gujarat and Delhi Administration to jointly execute 2,051 mw Parvati Hydel Project.

TRANSPORT

ROADS

Himachal Pradesh has now a road length of nearly 17,700 km connecting nearly half of the villages in the extremely hilly terrain and difficult conditions. It has three national highways.

RAILWAYS

The state has two narrow/meter guage railway lines running from Pathankot to Jogindernagar (Kangra Valley Railways) and Kalka to Shimla. Broad gauge railway line from Nangal to Talwara under construction has now been commissioned upto Una.

AVIATION

Himachal Pradesh has three airports at Bhuntar (Kullu Valley), Jubbarhatti (Shimla) and Gaggal (Kangra). Only Vayudoot service is operational on all three airports of the states.

TOURIST CENTRES

Main tourist complexes are Shimla, Palampur, Dharamsala, Kullu-Manali and Chamba-Dalhousie. Besides there are large number of places of tourists

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interest scattered all over the state. Temples at Jwalajee, Chamunda Devi, Chintpurni, Renuka and Rewalsar Deot Siddh and Naina Devi are major attractions for pilgrims. HPTDC has multi-purpose facilities at Chail, Wild Flower Hall, Charabra, Parwanoo and Manali. It runs ski courses from January to March at Narkanda. Hanggliding competitions are held in Kangra valley. There is a museum-cum-art gallery in Naggar and Dharamsala. More places of tourist attractions are being developed under a master plan. The State Government has formulated a comprehensive policy for planned, coordinated and fast development of tourism. The beautiful tourists resort of Khajjair in Chamba district has been christened as the Switzerland of Himachal Pradesh.

GOVERNMENT

Governor	:	Surendra Nath
Chief Minister	:	Veerbhadra Singh
Speaker	:	Kaul Singh
Chief Secretary	:	S K Chauhan
Jurisdiction Of High Court	:	Himachal Pradesh.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

	District	Area sq km	Population	Headquarters
1.	Bilaspur	1,167	2,95,387	Bilaspur
2.	Chamba	6,528	3,93,286	Chamba
3.	Hamirpur,	1,118	3,69,128	Hamirpur
4.	Kangra	5,739	11,74,072	Dharamsala
5.	Kinnaur	6,401	71,270	Rekong Peo
6.	Kullu	5,503	3,02,432	Kullu
7.	Lahaul and Spiti	13,835	31,294	Keylong
8.	Mandi	3,950	7,76,372	Mandi
9.	Shimla	5,131	6,17,404	Shimla
10.	Sirmour	2,825	3,79,695	Nahan
11.	Solan	1,936	3,82,268	Solan
12.	Una	1,540	3,78,269	Una

JAMMU AND KASHMIR

Area: 22,22,236 sq km
Capital: Srinagar (Summer)
Jammu (Winter)

Population: 59,87,389
Principal Languages: Urdu, Kashmiri, Dogri, Pahari, Balti, Ladakhi, Punjabi, Gujri, and Dadri.

HISTORY AND GEOGRAPHY

Legend in *Rajtarangani* and *Nilmat Purana* has it that the valley of Kashmir was once a large lake. According to it, Kashyap *rishi* drained off that water,

1. Includes 78,114 sq km under illegal occupation of Pakistan, 5,180 sq km illegally handedover by Pakistan to China and 37,555 sq km under illegal occupation of China.
2. The population figure excludes population of areas under unlawful occupation of Pakistan and China where censes could not be taken.

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making it a place of abode. Geologists have their own theory to prove that geological changes made way for the outflow of water by subsidence of the mountain at Khadinayar, Baramula. Thus, emerged the valley of Kashmir, the paradise on earth. Ashoka introduced Buddhism to Kashmir in the third century BC which was later strengthened by Kanishka. Control of the valley passed on to the Huns in the early sixth century. The valley regained freedom in 530 AD but soon came under the rule of the Ujjain empire. On the decline of the Vikramaditya dynasty, the valley had its own rulers. There was a synthesis of Hindu and Buddhist cultures. Lalitadiya (697-738 AD), who extended his rule upto Bengal in east, Konkan in south, Turkistan in north-west and Tibet in north-east, was the most famous of Hindu rulers. Lalitaditya was famous for constructing buildings. Islam came to Kashmir during 13th and 14th century AD. Muslims now constitute majority in Kashimir. Zain-ul-Abedin (1420-70), was the most famous of the Muslim rulers who came to Kashmir when the Hindu king Sinha Dev fled before the Tatar invasion. Later, Chaks overran Haider Shah, son of Zain-ul-Abedin; they continued to rule till 1586 when Akbar conquered Kashmir. In 1752, Kashmir passed on from the feeble control of Mughal emperor of the time to Ahmed Shahi Adbali of Afghanistan. The valley was ruled by the Pathans for 67 years.

Jammu has also been mentioned in *Mahabharata* and two recent finds of Harappan remains and artifacts of Mauryan, Kushan and Gupta periods of Akhnoor have added new dimensions to its ancient character. The land of Jammu was divided into 22 hill principalities. Raja Maldev, one of the Dogra rulers conquered many territories to consolidate his kingdom. Raja Ranjit Dev, ruled over Jammu from 1733 to 1782. His successors were weak and, thus, Maharaja Ranjit Singh annexed the territory to Punjab. He later handed over the Jammu Raj to Gulab Singh, an ascion of the old Dogra ruling family, who has grown powerful among Ranjit Singh's governors and had annexed almost the whole Jammu region. The state was governed by the Dogra rulers until 1948 with the paramountancy resting upto 1947 in the British Crown's representative in India.

Jammu and Kashmir state is situated between 32°17′ and 36°58′ north latitude and 73°26′ and 83°30′ east longitude. Its boundaries extend to Russian Turkistan in north, Tibet in east, Punjab in south and Pakistan in west. Geographically the state can be divided into four zones. First, the submontane and semi-montane plain commonly known as *Kandi belt;* the second, hills including Siwalik Ranges; the third, mountains of Kashmir Valley and Sir Punjab range; and the fourth, Tibetan tract of Ladakh, Kargil, Gilgit and Skardu.

AGRICULTURE

About 80 per cent of the population of the state depends on agriculture. Paddy, wheat and maize are the major crops. Barley, *Bajra* and *Jowar* are cultivated in some parts. Gram is grown in Ladakh. The state has forest area

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of 21,000 sq km comprising over 15 per cent of the total geographical area: excluding vast barreness of Ladakh, percentage of land under forests is over 51.

INDUSTRY

Handicrafts, being the traditional industry of the state, has been receiving top priority in view of its large employment potential and also demand of handicraft goods both within and outside the country. Handicraft production include mainly paper-mache, wood carving, carpets, shawlmaking, embroidery, etc. This sector provides employment to more than two lakh persons. This industry, particularly in carpets, earns substantial foreign exchange. Production value of handicrafts has increased to more than Rs 154 crore. About 81,370 persons have been imparted training in various trades under various schemes. Handloom Development Corporation is producing woollen items like export tweed, blazer, blankets, shawls, *Dhussas, Kani Shawl* etc. In the small scale sector, the number of units registered formally are 26,332 which generated employment for about 1,15,243 persons. In this sector, the Government has offered a package of incentives to attract unemployed youth to set up their units in the state.

IRRIGATION AND POWER

Irrigaion and power sectors with an allocation of Rs 156.57 crore had claimed 34.8 per cent of the 1988-89 Annual Plan. Salal and Stakna hydel projects were commissioned during 1987-88. About 74 villages were electrified during the year besides 437 hamlets and six *harijan bastis,* raising the total number of electrified villages to over 6,087 including 922 *harijan bastis* and 2,276 hamlets, out of a total of 6,718 villages. 5,100 villages had been provided tapped drinking water facilities till March 1988.

Two grid stations were commissioned. Work on 16 mini and micro-hydel projects is also going apace. Three gas turbines have been set up in the valley to overcome power shortage especially during winter. Four additional turbines are expected to be commissioned soon. A hydro-electric power corporation has been set up to mobilise resources for effective implementation of various power projects. Several other projects are being taken up in the Chenab Basin. *viz.*, Dul Hasti, Savalkote and Bugliar. Total power generation in the state sector is 259 mw.

TRANSPORT

ROADS

The state has about 10,260 kilometre of all categories of roads. Various vehicles in the state was about 1,04,864 till September 1989.

RAILWAYS

At present, rail system extends only upto Jammu. Work on Jammu-Udhampur railway line is in progress.

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AVIATION

Srinagar, Jammu and Leh are major airports conecting Jammu and Kashmir with other parts of the country.

FESTIVALS

Janmashtami the birthday of Lord Krishna is celebrted on the eighth dark fortnight of *Bhadon* (August-September). *Dussehra* or *Vijay Dashmi* on the tenth of bright fortnight of *Assuj* is celebrated as the day of victory of Rama over Ravana. *Shivratri* festival is also celebrated in Jammu and Kashmir. Four Muslim festivals celebrated in the state are *Id-ul-Fitr, Id-uz Zuha, Id-i-Milad-ul-Nabi* and *Miraj Alam Muharram* is also observed.

The H*emis Gumps Festival* of Ladakh is internationally known. A special feature of the *Hemis Festival* is its mask dance. In Spituk Monastery in Leh, enormous statues of goddess *Kali* are exhibited once in the year on the occasion of the annual festival which falls in January. Other festivals celebrated are *Lohri* marking the climate of the winter; *Singh Sankranti* observed in Rambon and adjoining villages: *Mela Pat* observed in Bhaderwah and Kishtwar in the month of *Chaitra*, etc.

TOURIST CENTRES

Kashmir Valley is described as 'Paradise on Earth', Chashma Sahi Springs, Shalimar Bagh,Dal lake, etc, in Srinagar; Gulmarg, Pahalgam, Sonamarg, etc.,in the Valley, Vishno Devi temple and Patnitop near Jammu, etc., are important tourist centres.

GOVERNMENT

Governor	:	Gen. K.V. Krishna Rao
Chief Secretary	:	Sheikh Ghulam Rasool
Chief Justice	:	Dr. A.S. Anand
Jurisdiction of High Court	:	Jammu, Kashmir and Ladakh.

AREA, POPULATION AND HEADQUARATERS OF DISTRICTS

	District	Area (sq km)	Population	Headquarters
1.	Anantnag	3,984	6,56,351	Anantnag
2.	Badgam	1,371	3,67,262	Badgam
3.	Baramula	4,588	6,70,142	Baramula
4.	Doda	11,691	9,13,395	Doda
5.	Jammu	3,097	9,43,395	Jammu
6.	Kargil	14,036	65,952	Kargil
7.	Kathua	2, 651	3,69,123	Kathua
8.	Kupwara	2,379	3,28,743	Kubwara
9.	Ladakh	8,26,665[1]	68,380	Leh
10.	Pulwama	1,398	4,04,978	Pulwama
11.	Punch	1,674	2,24,197	Punch
12.	Rajauri	2,630	3,02,500	Rajauri

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District	Area (sq km)	Population	Headquarters
13. Srinagar	2,228	7,08,328	Srinagar
14. Udhampur	4,550	4,53,636	Udhampur

1. Includes 37,555 sq km under illegal occupation of China.

KARNATAKA

Area : 1,91,791 sq km *Population* : 44,977,201
Capital : Bangalore *Principal Language* : Kannada

HISTORY AND GEOGRAPHY

Karnataka has written history of more than 2,000 years. Apart from being subject to the rule of the Nandas, Mauryas and the Satvahanas, Karnataka came to have indigenous dynasties like the Kadambas of Banavasi and the Gangas from the middle of the fourth century AD. Gomateshwara monololith of Shravanabelagola was installed by a Ganga minister. The Chalukyas of Badami (500-753 AD) ruled over wider area from the Narmada to the Kaveri from the days of Pulikeshi II (509-542 AD) who even defeated Harshavardana of Kanauj. This dynasty created fine monuments at Badami, Aihole and Pattadakal, both structural and rock-cut. Aihole has been one of the 'cradles' of temple architecture in the country. The Rashtrakootas (753-973 AD) of Malkhed who succeeded them levied tribute on the rulers of Kanauj successively in the so-called 'Age of Imperial Kanauj'. Kannada literature developed during this period. Outstanding Jain scholars of India lived in their court. The Chalukyas of Kalyana (973 to 1189 AD) and their later feudatories, the Hoysalas of Halebid built fine temples, encouraged literature and fine arts. Noted jurist Vijaneshwara (work:Mitakshara) lived at Kalyana. Great religious leader Basaveshwara was a minister of Kalyana. Vijayanagar empire (1336-1646) fostered indigenous traditions and encouraged arts, religion and literature in Sanskrit, Kannada, Telugu and Tamil, Overseas trade flourished. The Bahamani Sultans (Capital : Gulbarga, later Bidar) and the Bijapur Adilshahas raised fine Indo-Sarasenic buildings and encouraged Urdu and Persian literature. Advent of the Europeans resulted in introduction of new crops (tobacco, maize, chillies, groundnut, potato, etc.). After the fall of the Peshwa (1818) and Tipu (1799), Karnataka came under the British. Christian missionaries introduced English education and printing during the 19th century. Revolution in transport, communication and industries was evidenced. Urban middle class emerged. Mysore dynasty helped industrialisation and cultural growth. Freedom Movement was followed by the movement for unification of Karnataka. Congress (1924) was presided over by the Father of the Nation Mahatma Gandhi. After Independence, the new united Mysore State was created in 1956 and was renamed Karnataka in 1973.

Karnataka lies to south of Goa and Maharashtra, to west of Andhra

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Pradesh, to north-west of Tamil Nadu and to north of Kerala. It has a sea coast of nearly 260 km (300 km with inundations). Almost parallel to the coast are the Sahyadri ranges of the Western Ghats, after a narrow coastal strip. The highest point in the state is the peak of the Mullaiyanagiri (6,317 ft.) followed by Kudremukh (6,215 ft.). These Ghats are the source of many east and west flowing rivers of Karnataka. They are covered by thick forests rich in fauna and flora including teak and sandalwood. To the east of these ranges is the Deccan Plateau. Major parts of the state lie in this plateau. Mostly being in rain shadow area and suffering from periodical droughts, irrigation alone can sustain this region. The Ghats and the Tungabhadra valley are rich in iron ore. Many waterfalls in the Ghat region are harnessed for power. The state has a density of 234 persons per sq km as on 1991 and literacy rate of 56 per cent.

AGRICULTURE

Karnataka is predominantly rural and agrarian. About 76 per cent of its population lives in rural area with 71 per cent of working force engaged in agriculture and other allied activities generating about 37 per cent of the state's income in 1986-87. Of the total geographical area of 191 lakh hectare, net sown area was about 107 lakh hectares forming 56 per cent. Forest area was about 38.72 lakh hectare, 20.3 per cent of the total geographical area during 1991-92. Total production of cereals was 70.41 lakh tonnes. Oilseeds production was about 17.53 tonnes and pulses 7.63 tonnes during 1991-92. Major food crops are rice, *ragi, jowar, bajra,* maize and pulses. Karnataka accounts for 47 per cent of the country's *ragi* production. Cumulative irrigation potential created upto 1986-87 was about 26.96 lakh hectare and the net area irrigated was 2,094 lakh hectare in 1989-90 forming about 10,708 lakh hectares of the net area sown. Among cash crops, coffee is the most important as it accounts for 59 per cent of the country's coffee production and stands first in the yield per hectare. Other crops are cardamom, arecanut, sunflower, coconut, cashewnut, cotton, groundnut, chillies, castorseed, sugarcane and tobacco. The state stands second in the value of products per hectare and also second in total income from forests. Sandalwood, teakwood, rubber, bamboo, rosewood, etc. are the major forest products. It is one of the leading states in horticultural crops. Area and production of fruit crops was 2.27 lakh hectare and over 6,320 lakh tonnes in 1991-92 respectively. Karnataka has over 4.57 lakh hectare of fresh water, 8,000 hectare of brackish water resources and a coastal line of 300 km. Total fish production during 1990-91 was 2.39 lakh tonnes of which marine fish production was 1.86 lakh tonnes.

INDUSTRY AND MINERALS

Karnataka is one of the leading industrialised states in India contributing four per cent national production in the industrial sector. Public sector undertaking include Bharat Earth Movers, Bharat Electronics, Bharat Heavy Electricals, Hindustan Aeronautics Limited, Hindustan Machine Tools, Indian

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Telephones Industries, Wheel and Axle Factory, New Government Electric Factory and Mangalore Chemicals and Fertilisers. There are a number of factories under joint and private sectors and also small scale industries. Some of the manufactured items include aircrafts, rail coaches, telephone instruments, electronic and telecommunication equipment, glass, batteries, spark plugs, lamps, wheel and axle, electric motors, textiles, silk, hosiery, sandal oil, electrical goods, porcelain, ceramics, sugar, caustic soda, paper including newsprint, capacitors, mining metal tools, cement, motorcycles, fertilizers, etc. The Visveswaraiah Iron and Steel Limited, Bhadravathi, now owned by SAIL, produces special steel, alloy steel and ferro silicon with a rated capacity of 77,000 tonnes per year. Another important project of the state is Kudremukh Iron Ore Project at Kudremukh in Chikmagalur district. Karnataka stands first in production of electronic equipment. The state had in 1990-91, 12,746 registered factories employing 8.17 lakh persons. In fact, Bangalore is known as the electronic city of India. The state stands first in production of raw silk (mostly multivoltine) accounting to about 6,214 tonnes in 1990-91 of country's production and famous in the world markets for its sandal soap and sandal wood oil. The state is rich in mineral resources. Important minerals are high grade iron ore, copper, manganese, chromite, china clay, limestone and magneteo. The state has also the pride of producing gold and has rich deposits of granite.

IRRIGATION AND POWER

Karnataka has the Godavari, Krishna, Kaveri, Palar and the Pennar basins with a drainage area of 1,91,170 sq km mostly of east-flowing rivers for irrigation. Some westflowing rivers like the Kali and the Sharavathi are used for generating electricity. It is the first state in the country to have generated electricity at Gokak Falls in 1887. Important power projects are Shivasamudra Hydro-electric Project (1901), Sharavathi Hydro-Electric Project and the power project of the Kali river. The state has a thermal power station at Raichur with an installed capacity of 210 mw. Another thermal unit at Yelahanka near Bangalore with an installed capacity of 120 mw and an atomic power plant at Kaiga near Mangalore with an installed capacity of 4.70 mw are being installed. Total installed capacity was 2,984.60 mw (1989) and total energy generated was 12,041 mw in 1990-91.

TRANSPORT

ROADS

Karnataka had 1,28,900 km of motorable road including 1,968 km of national highways, in 1990-91.

RAILWAYS

Rail network in Karnataka was 3,090 km including broad gauge, meter gauge and narrow gauge in 1990-91. The work on Konkan Railway line is in progress.

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AVIATION

Bangalore, Belgaum and Mangalore are the main airports. Vayudoot service operates from Bangalore, Bellary, Hubli, Mangalore and Mysore connecting other main cities of southern parts of the country.

PORTS

New Mangalore Port is the main all-weather sea port in Karnataka which mainly has less cargo vessels. Special facilities for export of Kudremukh iron ore were developed with "Sea Bird" project of the Indian Navy.

TOURIST CENTRES

Tourist attractions in the state are Bangalore with its fine parks and industries, former princely capital Mysore with Brindavan Gardens and Srirangapattna (capital of Tipu) nearby, Shravanabelagola where the famous monolithic statue of Gomateshwara, 57 ft high stands, Belur, Halebid and Somanathapura with famous Hoysala monuments, Badami, Aihole and Pattadkal for the 1,300 year-old rock-cut and structural temples, Hampi, the famous open-air museum (ancient Vijayanagar), Gulbarga, Bidar and Bijapur, renowned for their Indo-Sarasenic monuments, Mangalore and Karwar for ports and beaches, Gokarna, Udupi, Dharmasthala, Melkote, Gangapura and Saundatti, famous pilgrimage centres. The Department of Tourism has identified 230 tourist spots in the state.

GOVERNMENT

Governor	:	Khurshid Alam Khan
Chief Minister	:	M. Veerappa Moily
Speaker	:	V.S. Koujalagi
Chief Secretary	:	J.C. Lynn
Chief Justice of High Court	:	K.A. Swamy
Jurisdiction of High Court	:	Karnataka

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

	District	Area (sq km)	Population	Headquarters
1.	Bangalore	2,191	48,39,162	Bangalore
2.	Bangalore Rural	5,814	16,73,194	Bangalore
3.	Belgaum	13,415	35,83,606	Belgaum
4.	Bellary	9,885	18,90,092	Bellary
5.	Bidar	5,448	12,55,799	Bidar
6.	Bijapur	17,069	29,27,990	Bijapur
7.	Chickmagalur	7,201	10,17,283	Chickmagalur
8.	Chitradurga	10,852	21,80,443	Chitradurga
9.	Dakshina Kannada	8,441	26,94,264	Mangalore
10.	Dharwad	13,738	35,03,150	Dharwad
11.	Gulbarga	16,224	25,82,169	Gulbarga
12.	Hassan	6,814	5,69,684	Hassan
13.	Kodagu	4,102	4,88,455	Madikeri

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District	Area (sq km)	Population	Headquarters
14. Kolar	8,223	22,16,889	Kolar
15. Mandya	4,961	16,44,374	Mandya
16. Mysore	11,954	31,65,018	Mysore
17. Raichur	14,017	23,09,887	Raichur
18. Shimoga	10,558	19,09,663	Shimoga
19. Tumkur	10,698	23,05,819	Tumkur
20. Uttara Kannada	10,291	12,20,260	Karwar

KERALA

Area : 38,863 sq km *Population :* 29,011,237
Capital : Thiruvananthapuram *Principal Language :* Malayalam

HISTORY AND GEOGRAPHY

To a large extent the ancient history of Kerala is shrouded in mists of tradition. The most popular legend is that Kerala was raised from the depths of the ocean. Parasurama, one of the *Avatars* of Vishnu had waged an epic series of vengeful war on the *Kshatriyas*. A time came, when Parasurama was struck by remorse at the wanton annihilation he had wrought. He offered severe penance atop the mountain heights. In a mood of profound atonement the sage heaved his mighty axe into the midst of the distant ocean. Waves foamed and forthed as a crescent shaped stretch of land extending from Gokarnam to Kanniyakumari surfaced from the depth of the sea. Legend apart, Kerala culture has been an integral part of the mainstream of Indian culture. Its history is the story synthesis, assimilation and fusion of old traditions and new values in every sphere of human thought and activity. In between the high western ghats on the east and the Arabian sea on the west, the width of the state varies from 35 km to 120 km. According to the geographical features, the state can be divided into hills and valleys, midland plains and coastal belt.

AGRICULTURE

Agriculture forms the main occupation of the people. About 42 per cent of the population depend upon agriculture for their livelihood. A unique feature of the state is predominance of cash crops. Kerala is a major producer of coconut, rubber, pepper, cardamom, cocoa, cashew, arecanut, sugarcane, coffee, tea, ginger besides others. Tree spices like nutmeg, cinnamon, cloves etc. are also cultivated. Rice and tapioca are important food crops. Coconut is the most important cash crop of Kerala while pepper earns the maximum foreign exchange. Banana, pineappple, mango and jackfruit are major fruit crops. Production of food crops continue to stagnate or decline in recent years. To fight the various problems facing agricultural production, the state government announced a policy statement in March 1992 outlining a number of bold initiatives with stress on supporting the interest of small and marginal

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farmers. During 1991-92 the production of rice was 10.60 lakh tonnes. During the same period coconut production was 4,206 million nuts and cashew was 98,000 tonnes. Milk production in the state during 1991-92 was 17.85 lakh tonnes and egg production was 1.605 million during the same period. Upto November 1992, 1,472 Amul pattern dairy cooperative societies were registered. Kerala contributes for a major share of seafish production. Exports of marine products in 1991-92 amounted to Rs 444.47 crore which would work out to about 32.30 per cent of total value of fish exports in the country. Fish production was 6.04 lakh tonnes in 1991-92.

INDUSTRY

Kerala is rich in industrial potentialities and infrastructure facilities such as hydro-electric power, rich forests, rare minerals like ilmenite and monozite and the efficient system of transport and communications. Traditional industries are handloom, cashew, coir and handicrafts. Other important industries are rubber, tea, ceramics, electric and electronic appliances, telephone cables, transformers, bricks and tiles, drugs and chemicals, general engineering, plywood splints and veneers, *Beedi* and cigar, soaps, oils, fertilisers and *Khadi* and village industry products. A number of manufacturing units have also sprung-up for production of precision instruments, machine tools, petroleum and petroleum products, paints, plup paper, newsprint, glass and non-ferrous metals. Principal export products are cashewnut, tea, coffee, spices, lemongrass oil, sea foods, rose wood and coir. The state has an abundance of important minerals like ilmenite, rutile, monazite, zircon, sillimanite, clay and quartz sand. Three electronic technology parks are planned to be set up in the state. Out of these, work on setting up the first technology park at Thiruvananthapuram is progressing well. Till October 1992, 45 companies took registration for setting their units in the techno park. The total number of small scale units in the state as at the end of 1991-92 was 84,440 out of which 10,918 were started in 1991-92.

IRRIGATION AND POWER

Major irrigation projects are Chalakkudy, Peechi, Malampuzha, Neyyar, Pothundy, Gayatri, Walayar, Vazhani, Mangalam and Cheerakuczhy. Besides, Kallada, Pampa and Periyar Valley schemes have also been commissioned. Of this, Kallada irrigation scheme was completed by mobilising mass voluntary labour. This scheme is the largest of its kind to benefit about one lakh hectare of land. Important power projects are entirely hydro-based. They have an installed capacity of 1,476.5 mw. Heavy rainfall and a large number of swift flowing rivers provide considerable pontential for power generation. Important power projects are Panniyar, Sholayar, Sabarigiri, Sengulam, Peringalkuth, Neriamangalam, Idukki, Pallivasal, Edamalayar and Kuttiadi. Power generation during 1991-92 decreased to 5,324 mw from 5,941 in the previous year. The per capita consumtion of power in the state stood at 193 kwh in 1991-92.

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TRANSPORT

ROADS

The length of roads in the state is 1.36 lakh km in 1991-92.

RAILWAYS

The state has a total railway network of 998 km and is now connected with almost all major places in rest of the country.

AVIATION

There are three airports-Thiruvananthapuram, Cochin and Calicut. Thiruvananthapuram has been declared an international airport from January 1991-92.

PORTS

The major port at Cochin plays a vital role in expanding foreign trade as well as coastal trade. There are 13 other minor and intermediate ports and harbours.

FESTIVALS

Kerala is the home of many colourful festivals. Most of them have a religious fervour inspired by Hindu mythology. Almost every village has its own fairs and festivals and festivities. *Onam* is the most typical Kerala festival which has now earned an all-India character. It coincides with harvest season and is an occasion of spontaneous revelry. Onam celebrates home coming of Mahabali, legendary king, who rules over Kerala in an age of plenty but was pushed down to infernal regions by *Vishnu* in the form of *Vamana*. It is now celebrated as a national festival under government auspices. *Visu* is another festival celebrated on astronomical New Year Day. *Navarathri* is celebrated as *Saraswathi Pooja* in Kerala. *Mahashivrathri* is celebrated on the banks of Periyar river as a spectacular festival which is compared to *Kumbha Mela* of Prayag. The 41-day festival which coincides with *Makaravilakku* in Sabarimala Ayyappan temple attracts lakhs of people from India and abroad. The *vallamkali* or boat race is typical of Kerala and except Nehru Trophy Boat Race conducted in the Punnamada Lake, all the boat festivals have a religious origin. Vadakkunnatha temple at Trichur celebrates *Pooram* festival in April every year with an impressive procession of caparisoned elephants and display of pyrotechincs unparalleled. Main Christian festivals are Christmas and Easter. Maramon convention held every year on the Pumba river bed is the biggest gathering of Christians in Asia. The Muslims celebrate *Bakrid*, *Ramzan* and *Muharram*. Apart from this they have *Jarram* and *Nercha* festivals.

TOURIST CENTRES

Kerala has the most attractive wild life sanctuary at Thekkadi on the banks of river Periyar. Kovalam is an integrated sea-side resort. Padmanabhaswami temple in Thiruvananthapuram is an exquisite specimen of south Indian architecture. Ponmudi is a famous hill station. Neyyar Dam is famous for its scenic beauty and Veli lagoon at the outskirts of Thiruvananthapuram with its

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boat club provides a chance for leisurely cruise. Other places of tourist interest are Kaladi (birth place of Adi Sankara), Kasaragoda (fort projecting on to the sea), Malampuzha (picturesque surroundings), etc.

GOVERNMENT

Governor	: B. Rachaiah.
Chief Minister	: K. Karunakaran
Speaker	: P. P. Thankachan
Chief Secretary	: K.V. Rabindran Nair
Chief Justice	: M. Jagannadha Rao
Jurisdiction of High Court	: Kerala and Lakshadweep

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

	District	Area (sq. km)	Population	Headquarters
1.	Alleppy	1,883	19,90,603	Alleppey
2.	Cannanore	4,958	22,44,819	Cannanore
3.	Ernakulam	2,408	27,97,779	Ernakulam
4.	Idukki	5,061	10,76,555	Painavu
5.	Kasaragod	1,963.3	10,70,629	Kasaragod
6.	Kottayam	2,204	18,19,581	Kottayam
7.	Kozhikode	2,345	26,12,897	Kozhikode
8.	Malappuram	3,548	30,93,190	Malappuram
9.	Palghat	4,480	23,76,160	Palghat
10.	Pathanamthitta	2,695	11,86,628	Pathanamthitta
11.	Quilon	4,260	23,98,285	Quilon
12.	Trichur	3,032	27,34,333	Trichur
13.	Thiruvananthapuram	2,192	29,38,583	Thiruvananthapuram
14.	Wayanad	2,132	6,71,195	Kalpetta

MADHYA PRADESH

Area: 4,43,446 sq km
Capital: Bhopal
Population: 66,135,862
Principal Language: Hindi

HISTORY AND GEOGRAPHY

Madhya Pradesh is centrally situated state of the country. King Ashok first of all ruled over Ujjain. A sizeable portion of Central India was the part of Gupta empire (300-500 AD). The Muslims have come into Central India in the beginning of 11th century. First of all Mahmud of Ghazni came over here and then came Mohammed Gauri who incorporated some parts of Central India into his ruling territory of Delhi. Central India was also the part of Mughal empire. During the period between the beginning of the influence of Marathas and the death of Madhoji Scindia in 1794, Marathas were in the ascendant in the Central India but later on the small states started coming into existence. These small states became the cause of perpetuation of British power in the country. Queen Ahilyabai Holkar of Indore, the Gaud Maharani

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Rani Kamala Devi and Queen Durgawati etc, were some women rulers whose names have been written in an indelible imprint in the Indian history for their outstanding rule. Madhya Pradesh came into being on 1 November 1956. The state is surrounded by seven states. It is bounded by Rajasthan on the north west, by Uttar Pradesh on the north, by Bihar on the north east, by Orrisa on the east, by Andhra Pradesh and Maharashtra on the south and Gujarat on the west. A population of 23 per cent of the total population of the state belong to scheduled tribes and fourteen per cent population belong to scheduled castes. One-fifth part of the total population of scheduled tribes of the country lives in Madhya Pradesh.

AGRICULTURE

Agriculture is the mainstay of the state's economy and 80 per cent of the people live in villages. In all 43.7 per cent of the land area is cultivable of which 16.6 per cent is irrigated. The Malwa region abounds in rich black cotton soil, the low lying areas of Gwalior, Bundelkhand and Baghelkhand and the Chhattisgarh plains have a lighter sandy soil, while the Narmada valley is formed of rich alluvial deposits. Principal crops are rice, wheat and pulses.

INDUSTRY AND MINERALS

Madhya Pradesh has entered the area of high-tech industries such as electronics, telecommunications, petrochemicals, food processing and motor vehicles etc. Madhya Pradesh is the first state in the country which has started production of optical fibre to cater to the needs of telecommunications. A large number of automobile industries have been set up at Pithampur, which is called the "Detroit of India". The state has taken lead in the production of soyabean, in sphere of cement production and it produces about 99 lakh tonnes of cement annually. Madhya Pradesh occupies seventh position in the sphere of industrialisation in the country. Prominent industries in the public sector in the state are Bhilai Steel Plant, Bharat Heavy Electricals, Bhopal; Aluminium Plant at Korba, Security Paper Mill, Hoshangabad; Bank Note Press at Dewas, Newsprint Mill, Nepanagar and Alkaloid factory at Neemuch. The state is also famous for its traditional handicrafts and handloom clothes manufactured at Chanderi and Maheshwar. The state has distinct place in the sphere of mineral production. It is second place among the mineral producing states of the country. Prominent minerals such as coal, limestone, iron-ore, manganese, dolomite, bauxite, china-clay, rockphosphate, copper ore, diamond, silica, phosphorite and tin are produced in the state. In all 27 kinds of mineral are at present being mined in the state.

IRRIGATION AND POWER

Total installed capacity in the state is 3,158.7 mw. It is proposed to be doubled during the Eighth Plan. Nearly, 63,007 villages have been electrified in this

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far-flung state. Number of energised irrigation pumpsets is nearly 8.95 lakh. In all 15,29,033 households have been provided subsidised single point connections in the state.

TRANSPORT

ROADS

The total length of the roads of the state was 90,258 km in 1990-91 including 70,849 km metalled roads.

RAILWAYS

The main rail route linking northern India passes through Madhya Pradesh. Main junctions in the state are Bhopal, Bilaspur, Bina, Gwalior, Indore, Itarsi, Jabalpur, Katni, Ratlam and Ujjain. The total length of rail routes in the state was 5,765 km in 1988-89. The divisional railway headquarters are at Bhopal, Ratlam, Jabalpur and Bilaspur.

AVIATION

There are aerodromes at Bhopal, Raipur, Indore, Khajuraho and Gwalior in the state for commercial flights.

FESTIVALS

Tribals of western Madhya Pradesh celebrate *Bhagoria* functions with gaiety and enthusiasm on the occasion of *Holi,* while tribals of southern Madhya Pradesh celebrate *Dussehra* exhibiting their unity and faith. Besides, there are other festivals of different areas of the state that are celebrated with traditional gaiety and enthusiasm by the people in various seasons.

TOURIST CENTRES

Madhya Pradesh is not only big in size but it also has so much scenic beauty, attractions and cultural diversities that are irresistible for tourists. Madhya Pradesh has many important places of archaeological and architectural importance. These are Gwalior Fort, Mandu Fort, Stupas of Sanchi, Udaigiri caves, Bhimdeo, Deepadeeh, Hingalajgarh and Khajuraho. Tourists from all over the world visit India to see these monuments. The state has great wealth of wildlife which is to be seen in protected National Parks of Kanha, Panna, Bandhavgarh and Satpuda. There are attractive and beautiful rock temples of ancient times in the state.

GOVERNMENT

Governor	:	Mohd Shafi Qureshi
Chief Minister	:	Digvijay Singh
Speaker	:	Srinivas Tiwari
Chief Secretary	:	N.S. Sethi
Chief Justice	:	Justice S.K. Jha
Jurisdiction of High Court	:	Madhya Pradesh

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AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq km)	Population	Headquarters
1. Balaghat	9,229	13,62,731	Balaghat
2. Bastar	39,114	22,70,472	Jagdalpur
3. Betul	10,043	11,80,527	Betul
4. Bhind	4,459	12,14,480	Bhind
5. Bhopal	2,772	13,50,302	Bhopal
6. Bilaspur	19,897	37,96,553	Bilaspur
7. Chhatarpur	8,687	11,58,853	Chhatarpur
8. Chindwara	11,815	15,63,332	Chindwara
9. Damoh	7,306	8,97,544	Damoh
10. Datia	2,038	3,97,743	Datia
11. Dewas	7,020	10,32,522	Dewas
12. Dhar	8,153	13,66,626	Dhar
13. Durg	8,537	23,98,497	Durg
14. East Nimar	10,779	14,32,855	Khandwa
15. Guna	11065	13,09,451	Guna
16. Gwalior	5,214	14,14,948	Gwalior
17. Hoshangabad	10,037	12,65,970	Hoshangabad
18. Indore	3,898	18,30,870	Indore
19. Jabalpur	10,160	26,45,232	Jabalpur
20. Jhabua	6,782	11,29,356	Jhabua
21. Mandla	13,269	12,91,313	Mandla
22. Mandsaur	9,791	15,55,481	Mandsaur
23. Marena	11,594	17,07,619	Marena
24. Narsinghapur	5,133	7,84,523	Narsinghapur
25. Pauna	7,135	6,84,721	Pauna
26. Raigarh	12,924	17,24,420	Raigarh
27. Raipur	21,258	39,02,609	Raipur
28. Raisen	8,466	8,77,369	Raisen
29. Rajgarh	6,154	9,92,315	Rajgarh
30. Raj Nandgaon	11,127	14,39,524	Raj Nandgaon
31. Ratlam	4,861	9,71,309	Ratlam
32. Rewa	6,314	15,50,140	Rewa
33. Sagar	10,252	16,46,198	Sagar
34. Satna	7,502	14,62,412	Satna
35. Sehare	6,578	8,40,427	Sehare
36. Seoni	8,758	9,99,762	Seoni
37. Shahdol	14,028	17,43,068	Shahdol
38. Shajapur	6,196	10,32,520	Shajapur
39. Shivpuri	10,278	11,31,933	Shivpuri
40. Sidhi	10,256	13,71,935	Sidhi
41. Surguja	22,337	20,82,930	Ambikapur
42. Tikamgarh	5,048	9,40,609	Tikamgarh
43. Ujjain	6,091	13,86,465	Ujjain
44. Vidisha	2,742	9,71,097	Vidisha
45. West Nimar	13,450	20,26,317	Khargone

MAHARASHTRA

Area: 3,07,713 sq km
Capital: Bombay
Population: 7,89,37,187
Principal Language: Marathi

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HISTORY AND GEOGRAPHY

Like other states Maharashtra too has a past steeped in legends, stories and myths. A clearer picture, however, is available with the historic times. First prominent ruling dynasty was the Satvahanas, Yakatakas were another ruling family. This region came to be ruled by various powers like the Chalukyas, Yadavas, Khalijis of Delhi and Bahamanis after which the whole principality broke into smaller sultanates. It was only in the 17th century with the arrival of Shivaji on the scene that modern Maratha nationality came into being. Shivaji united the hitherto scattered forces and made a noble and glorious power which challenged the Mughal advance beyond the Deccan Plateau. With Shivaji's death as is usually the case with monarchies, came the disintegration of Marathas. After the failure of descendents, the *Peshwas* seized power, which resulted only in a brief respite. Final nail in the Maratha confederacy was driven at the Third Battle of Panipat in 1761.

It once again flared into prominence with Nana Saheb leading his soldiers in the revolt of the 1857. But it too was quashed and the British took over even the last remnants of power. Freedom struggle once again united people under the leadership of Tilak and later Gandhiji produced a Maratha confederacy of a different sort. Maharashtra stood in the forefront of freedom struggle till 1947 and after that it was engaged in the task of nation building. Reorganisation of states brought for the first time all Marathi-speaking regions in one state of Maharashtra first by breaking up of old Central Provinces and Hyderabad, and finally the bilingual Bombay State. Arabian Sea guards the western boundary of Maharashtra while Gujarat and Madhya Pradesh are its neighbours on the northern side. Karnataka and Andhra Pradesh are on its southern side.

AGRICULTURE

About 70 per cent of population in the state depends on agriculture. Net irrigated area till 1991-92 was 26.46 lakh hectare. Gross irrigated area, however, increased by surface irrigation. Principal crops grown in the state are rice, *jowar*, *bajra*, wheat and variety of pulses. The state is an important producer of oilseeds. Groundnut, safflower are major oilseed crops. Important cash crops are cotton, sugarcane, tobacco, turmeric and a variety of vegetables. The state is also producing fruits and has a substantial area of orchards of orange, banana, mango, grape, cashewnut, sweet lime, etc.

INDUSTRY

With its key location linking the northern and southern parts of the country, Maharashtra is India's industrial and economic backbone and provides opportunities galore to enterprising entrepreneurs. While accounting for under ten per cent of the country's area and population, it accounts for 23 per cent of its total industrial output. Involved in this production worth Rs 33,068 crore are 24,226 factories, 11.77 lakh workers and Rs 16,536 crore worth of productive capital. The state government's efforts have resulted in

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the promotion of 75 NRI-sponsored industrial units in the state mostly in the backward areas of Nagpur, Aurangabad, Nasik, Bhandara, Raigad and Solapur. Maharashtra enjoys a premier position in the petro-chemical sector as reflected by the three gas crackers in operation *viz.* MGCC by India Petrochemicals Corporation Limited at Nagothane in Raigad district, NOCIL in Thane district and OSWAL Agro at Chembur in Bombay. To facilitate the importance of main feedstocks for industries, a port-based storage terminal is promoted in the Jawaharlal Nehru Port at Nhava Sheva near Bombay.

Maharashtra is the leader in the production of electronic goods. MELTRON has been concentrating all along on high technology professional electronic products and systems in the areas of broadcast communication, radio communication, line communication and telematics, defence electronics, power electronics, etc. The state offers the largest market for electronics products with Bombay in the lead. The Maharashtra Electronics Corporation Ltd. (MELTRON), a state government owned undertaking, is engaged in the development of electronics in Maharashtra. It has an audio-visual unit at Andheri, a suburb of Bombay; Radio Communications Unit in Nagpur; Telematics Unit in Aurangabad and Instrumentation Unit at Kudal in Sindhudurg district. The Corporation's turn-over was over Rs 65 crore in 1992-93. To accelerate the pace of electronic development, four exclusive electronic zones have been set up at Bhosari near Pune, Aurangabad, Nagpur and Thane.

IRRIGATION AND POWER

During 1951 to June 1992, 20 major, 171 medium 1,559 state sector minor irrigation and 370 lift irrigation projects have been completed. Cumulative irrigation created till June 1992 was 27.15 lakh hectare. The installed capacity of hydro, thermal, nuclear and gas turbine power stations in the state was 9,435 mw during 1992-93. Cent percent village electrification declaraed on 31 December 1989 and 17,43,405 pumpsets have been energised till 31 December 1992.

TRANSPORT

ROADS

Total length of roads in the state was 2,08,183 km consisting of 2,959 km national highway, 30,975 km state highways, 38,976 km major district roads, 38,573 km other district roads, 61,522 km village roads and 40,164 km unclassified roads.

RAILWAYS

Maharashtra has approximately 5,440 km of railway route of which about 3,356 km is broad gauge, 1,000 km meter gauge and 1,084 km is narrow gauge. Main railway junctions are Bombay, Nagpur, Manmad, Akola, Pune and Solapur. The West Coast broad gauge rail line from Roha in Maharashtra to Mangalore in Karnataka with a distance of 837 km is proposed to be

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completed at a cost of about Rs 1200 crore in about four years time. A public sector undertaking "Konkan Railway Corporation Ltd." has been set up to complete the project which covers 423 km in Maharashtra with 36 stations. During 1992-93 the project in Maharashtra was completed on Harbour-Railway upto Nerul station. On 9 May 1992 the train proceeded from Vashi railway station to VT signalling the dawn of a new era and revolution in the transport system between Bombay and New Bombay. This railway-line has satisfied the long awaited need of public transport between Bombay and New Bombay.

AVIATION

There are a total number of 18 air strips presently in the state. Five major air strips of Bombay, Pune, Aurangabad, Nasik and Nagpur are maintained by the Government of India, while the remaining 13 by the state, *viz.* Ratnagiri, Satara (Karad), Satara (Phaltan), Dhule(Wada-Bhokar), Chandrapur (Morwa), Nanded, Jalgaon, Bhandara, Akola, Kolhapur, Solapur, Osmanabad and Raigad (Kinwat, Nanded)

PORTS

Bombay is the major port in Maharashtra. A new port at Nhava Sheva off Bombay was opened in 1989. There are 48 minor ports also in the state.

TOURIST CENTRES

Some important tourist centres are; Ajanta, Ellora, Elephanta, Kanheri and Karla caves; Mahabaleshwar, Matheran and Panchagani, Jawahar, Melghat hill stations and religious places at Pandharpur, Nasik, Shirdi, Nanded, Aundhanagnath, Trimbakeshwar, Tuljapur, Ganapatipule and Ratnagiri.

GOVERNMENT

Governor	:	Dr.P.C. Alexander
Chief Minister	:	Sharad Pawar.
Speaker	:	Madhukarrao Choudhari
Chief Secretary	:	N. Raghunathan.
Chief Justice	:	M.K. Mukherjee.
Jurisdiction of High Court	:	Maharashtra and Goa.

AGRA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq km)	Population	Headquarters
1. Ahmednagar	17,048	33,62,359	Ahmednagar
2. Akola	10,574	22,11,016	Akola
3. Amravati	12,210	22,08,568	Amaravati
4. Aurangabad	10,107	22,09,476	Aurangabad
5. Bhandara	9,321	21,03,276	Bhandara
6. Beed	10,693	18,18,499	Beed
7. Bombay City	69	31,59,907	Bombay City
8. Buldana	9,661	18,81,446	Buldana
9. Chandrapur	11,443	17,68,958	Chandrapur
10. Dhule	13,150	25,29,346	Dhule

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District	Area (sq km)	Population	Headquarters
11. Gadchiroli	14,412	7,85,626	Gadchiroli
12. Jalgaon	11,765	31,83,934	Jalgaon
13. Jalna	7,718	13,62,546	Jalna
14. Kolhapur	7,685	29,74,352	Kolhapur
15. Latur	7,157	16,73,070	Latur
16. Nagpur	9,892	32,79,687	Nagpur
17. Nanded	10,528	23,26,100	Nanded
18. Nasik	15,530	38,44,525	Nasik
19. Osmanabad	7,569	12,71,870	Osmanabad
20. Parbhani	11,,041	21,14,770	Parbhani
21. Pune	15,643	55,11,457	Pune
22. Raigad	7,152	18,14,628	Alibag
23. Ratnagiri	8,208	15,39,416	Ratnagiri
24. Sangali	8,572	21,97,977	Sangali
25. Satara	10,480	24,45,000	Satara
26. Sindhudurg	5,207	8,30,726	Kudal
27. Solapur	14,895	32,24,034	Solapur
28. Thane	9,558	52,26,709	Thane
29. Wardha	6,309	10,65,589	Wardha
30. Yavatmal	13,582	20,73,708	Yavatmal
31. Bombay (Suburbs)	534	67,49,640	Bandra

MANIPUR

Area: 22,327 Sq Km *Population:* 18,26,714
Capital: Imphal *Principal Language:* Manipuri

HISTORY AND GEOGRAPHY

Not much of recorded history of Manipur is available. It is commonly known that an adventurer named Pakhangba ascended the throne of the seven main principalities and founded a dynasty which ruled Manipur till 1949. A king named Loi Yamba in 1074 AD consolidated the kingdom to a great extent. In the later years, Kabaws (who lived at Indo-Burma border) tried to annex the south eastern part of Manipur Valley which was foiled by King Khumomba. By 1470 Kabaw valley was annexed to Manipur. By 1542, Manipur dominions were further extended. There was a battle with the Chinese in which the Manipuris singly defeated them.

In the next 200 years, Manipur saw a steady prosperous time. In 1762, the Manipur king concluded a treaty with the British to ward off the growing menace of the Burmese. It is well-known that Burmese successes in Manipur, Assam and other places led to war between the Burmese and the British lasting seven years. The treaty of Yandabo in 1826 ended the war but failed to solve the problem for Manipuris. The British Government kept Manipur as a native state after much deliberations. After integration with the Indian Union in 1949, the problem of Manipur did not end as it was made a part 'C' state. Central leadership was against its merger in Assam as was considered by the Reorganisation Commission. Hence, it

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became a Union Territory under the States Reorganisation Act, 1956. At the growing dissent of the people, Manipur was made a full-fledged state of the Union in 1972. Geographically the state is divided into two tracts—the hills comprising five districts and the plains with three districts. Manipur is bounded by upper Burma on east, the Chin Hills of Burma on south-east, Nagaland on north, Assam on west and Mizoram on south and south west.

AGRICULTURE

Agriculture and allied activities is the single largest source of livelihood of majority of rural masses and is also the mainstay of the state economy. From a modest beginning in 1946 the state has now got sufficient number of trained manpower of its own to implement various schemes and programmes in agriculture. Production of rice has gone upto 2,262 kg per hactare for high-yielding varieties. Consumption of fertilisers upto 31 March 1993 reached 90 kg per hactare. Total area under forest cover is 15,154 sq km of which 1,463 sq km fall under reserved forest while 4,171 sq km is protected forest reserve and the remaining unclassed forest. Manipur is the abode of Shiroy Lily, the paradise flower which is not found elsewhere in the world. It is also the home of the brow-antlered deer, one of the rarest species in the world.

INDUSTRIES

Manipur is industrially backward, primarily due to its locational disadvantages. However, it is now making rapid strides towards industrialisation and has registered 8,043 village industrial units by March 1993. Manipur Drug and Pharmaceutical Project—a joint sector project of Government of Manipur and Government of India has been commissioned at Nilakuthi, in Imphal district since January 1993. Large units include a steel re-rolling mill, plywood factory, bamboo chipping unit at Jiribam, spinning mill, cycle corporation, cement plant, Shree Flour Mill and *Vanaspati* manufacturing plant in the joint sector. A master plan for industrial development of Manipur upto 2000 AD has been prepared through National Industrial Development Corporation (NIDC) and profile of 99 feasible industries in the state has also been compiled. An area of 461 acres has been identified at Kanglatongbi in Senapati district for the purpose of setting up one industrial growth centre at a cost of Rs 17 crore. Preparation of project feasibility report in draft stage is completed. Manipur Electronics Development Corporation Limited manufactures large number of both colour and black and white TV set. The Centre for Electronic Development and Technology and Central Institute of Plastic Engineering and Technology has been established by the Government of India at Imphal. A number of successful units have also come up in the private sector.

IRRIGATION AND POWER

Within a short period of one and a half decade of introduction of major and medium irrigation in the state, remarkable progress has been made bringing

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62,000 hectare under irrigation. The state has so far taken up seven projects under the major and medium irrigation programmes. These projects on completion will provide an annual irrigation benefit of 1,10,770 hectare with water supply and power components of 19 mgd and nine mw respectively.

Power development began in Manipur with the installation of first hydro power house at Leimakhong in 1930 having two sets of 100 kw and 56 mw capacities. Installed capacity was 12,023 kw as on 31 March 1993. One thousand six hundred and ninety-seven villages have been electrified as on 31 March 1993. Power supply position in the state showed a market improvement with the recommissioning of Loktak Hydro Project in August 1984.

TRANSPORT

ROADS

National Highways No.39 and 53 pass through Manipur for a distance of 434 km. The state has 5,816 km of roads both metalled and unmetalled as on 31 March 1993.

RAILWAYS

The state is now included in the railway map of India with the opening of rail-head at Jiribam in May 1990. Proposal has been mooted for circular railway line connecting the towns along the foothills of the state.

AVIATION

Imphal is the only airport which is linked with other stations in the region by Indian Airlines. From 1 May 1993 Imphal is linked with Calcutta, Guwahati and Silchar.

FESTIVALS

Thirteen festivals in twelve months, thus goes a popular Manipur saying. Every month is associated with a festival or two and Manipur festivals mean songs and dances and sometimes sports. Important festivals of the state are *Dal-Yatra, Lai Haraoba, Heikru Hitongba, Rasa Leela, Cheiraoba, Ningol Chakkaouba, Rath-Jatra, Kut, Lui-Ngai-Ni, Gang-Ngai, Idul-Fitre and Christmas.*

TOURIST CENTRES

Moirang, Keibul Lamjao, Phubala, Sendra, Kaina, Waithou, Khongjom, Moreh, Ukhrul, Mao, Chrachandpur, etc., are some important tourist centres in the state.

GOVERNMENT

Governor	:	Lt. Gen. V. K. Nayar
Chief Minister	:	R.K. Dorendro Singh.
Dy. Chief Minister	:	Rishang Keishing.
Speaker	:	Dr H. Borobabu Singh.
Chief Secretary	:	H.V. Goswami.

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Jurisdiction of High Court : Falls under Jurisdiction of Guwahati High Court. A permanent bench of the Guwahati High Court, Imphal bench has started functioning from 14 March 1992.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq km)	Population	Headquarters
1. Bishnupur	496	1,79,903	Bishnupur
2. Chandel	3,313	70,734	Chandel
3. Churachandpur	4,570	1,76,043	Churachandpur
4. Imphal	1,228	7,07,184	Imphal
5. Senapati	3,271	2,06,933	Senapati
6. Tamenglong	4,391	85,572	Tamenglong
7. Thoubal	514	2,90,393	Thoubal
8. Ukhrul	4,544	1,09,952	Ukhrul

MEGHALAYA

Area : 22,429 sq km
Capital : Shillong
Population : 17,74,778
Principal Languages : Khasi, Garo, Jaintia and English

HISTORY AND GEOGRAPHY

Meghalaya was created as an autonomous state within the state of Assam on 2 April 1970. The full-fledged state of Meghalaya came into existence on 21 January 1972. It is bound on the north and east by Assam and on the south and west by Bangladesh. Meghalaya literally meaning the abode of clouds is essentially a hilly state. It is now divided into seven administrative districts. They are: (1) Jaintia hills (2) East Garo hills (3) West Garo hills (4) East Khasi hills (5) West Khasi hills (6) Ri Bhoi district and (7) South Garo hills district. These are predominantly inhabited by the Khasis, the Jaintias and the Garos. These tribal communities are the descendants of very ancient people having distinctive traits and ethnic origin. The Khasi hills and Jaintia Hills which form the central and eastern parts of Meghalaya is an imposing plateau with rolling grassland, hills and river valleys. The southern face of this plateau is marked by deep gorges and abrupt slopes, at the foot of which, a narrow strip of plain land runs along the international border with Bangladesh.

A number of rivers, none of them navigable, drain the mountainous state. In the Garo hills, the Manda, the Darming and the Jinjiram flow towards the north while the Ringge and the Ganol flow in the westernly direction. Rivers flowing to the south are the Simsang which is the biggest river in Garo hills and the Bugi. In the Khasi and Jaintia hills, the rivers that flow in a northernly direction include the Khri, the Umtrew, the Umiam, the Umkhen besides the Kupli on the border between Jaintia hills and North Cachar hills. The Kynshi, the Umiam Mawphlang and the Umngot flow to the south into Bangladesh.

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AGRICULTURE

Meghalaya is basically an agricultural state. Eighty-three per cent of the total population depend primarily on agriculture for their livelihood. The topography, physical features and land conditions as prevailing in the state provide extremely limited scope for extensive cultivation or to bring additional area under wet cultivation. Rice and maize are the major food crops. Wheat has been introduced a few years back and the result is quite encouraging. Potato, jute, mesta, cotton, mustard, arecanut, ginger, turmeric, betelvine, black pepper, *tezpata,* etc., are some of the cash crops. Orange, pineapple, banana, lemon, guava, *litchi,* jackfruit and temperate fruits such as plum, pear and peach are some of the important horticultural crops grown in Meghalaya. Apart from the above crops, the state has achieved success in the cultivation of tea, mushroom and tomato.

IRRIGATION AND POWER

The state has power potential for nearly 1200 mw. It could tap about 186.71 mw upto 1992-93. It is a power surplus state. About 36 per cent of electricity generated in the state is supplied to the neighbouring states. The per capita consumption is only 143.80 kw as in 1990-91. By the end of March 1991-92, 47.22 per cent of the villages in the state have been electrified.

INDUSTRY AND MINERALS

The public sector cement factory at Cherrapunjee has been re-activated to raise the production to 1,65,000 mt per annum. The tantalum capacitor unit of the Meghalaya Electronics Development Corporation at Umiam-Khwan is in production. The mini cement plant, one at Damas in East Garo Hills district and the other at Sutnga in Jaintia Hills district have also gone into production. The number of small scale industrial units covering service industry, bakeries, furniture making, iron and steel fabrication, tyre retreading, spice, etc., is increasing and the government is giving greater thrust on entrepreneurship development. The Meghalaya Industrial Development Corporation (MIDC) is assisting the industrial units by way of term loans and also by participating in equity capital.

FOREST

The total forest area in the state is 8,510 sq km with only 993 sq km under the control of the state government and the rest under the district councils and private managements. The principal timber species are teak, titachap, gomari, bola, pine, birch, and makrisal. Principal forest products include timber, bamboo, reed, cane, ipecac, medicinal herbs and plants, cinnamon and thatch grass. Azaleas and rhododendrons grow wild in the forests of Khasi and Jaintia Hills and many kinds of beautiful orchids are found in the woods.

Pitcher plant, the insect-eating plant of botanical wonder, is found in plenty in the South Garo Hills and West Khasi Hills district and it is said that such a plant is found nowhere else in the world. Many rare and

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interesting plants are also found endemic to the State like wild citrus and pygmy lily.

WILDLIFE

Meghalaya is also rich in wildlife. There are elephants, tigers, bears, wild boars, leopards, golden cats, leopard cats and jungle cats, deer of various kinds, bintorongs, slow loris, monkeys of differnt types including capped *langurs,* golden langurs and hoolocks, flying squirrels and giant squirrels. There are also many rare and interesting birds including the hornbills, patridges, pheasants, teals, snipes, geese, ducks and quails. All these are protected by law. The state has two national parks, *viz.*, the Nokrek National Park and the Balpakram National Park and two wildlife sanctuaries, namely, the Nongkhyllem Wildlife Sanctuary and Siju Wildlife Sanctuary.

MINERALS

Mineral wealth of Meghalaya include coal, silimanite, limestone, dolomite, fire-clay, felspar, quartz and grass-sand. The total estimated reserve of coal in the state is 562 million tonnes and that of limestone is around 4,500 million tonnes.

FESTIVALS

Ka Pomblang Nongkrem popularly known as *Nongkrem* dance is one of the most important festivals of the Khasis. It is a five-day religious festival held annually at Smit village 11 km from Shillong, the headquarters of the syiem (chief) of Khyrim. The festival is held as a thanks-giving ceremony to God Almighty for harvest and to pray for peace and prosperity. *Shad Sukmynsiem* is another important festivals of the Khasis. It means 'Dance of the Joyful Heart' and is also a thanksgiving dance. Maidens dressed in traditional fineries and men folk in colourful costumes participate in the dance to the accompaniment of drums and flute. It is held in Shillong sometime during the second week of April every year and lasts for three days. *Behdiengkhlam,* the most important festival of the Jaintias is celebrated annually at Jowai in Jaintia Hills during the month of July. It is a very popular and colourful festival where men, young and old take part in the dancing to the tune of drums and flute. *Wangala* one of the most important festivals of the Garos is held during October-November, and it lasts for a week. This festival is observed to honour and offer sacrifies to their greatest god called Saljong (Sungod). The occasion is initiated, right in the field by a simple but impressive ceremony known as *RUGULA*. After that the ceremony of incense known as *Sasat Soa* is celebrated. This is performed inside the house of the chief of the village. On this occasion people—young and old, boys and girls in their colourful costumes with feathered headgear dance to the tunes of music played on long oval shaped drums.

TOURIST CENTRES

Meghalaya is dotted with a number of lovely tourist spots where nature unveils herself in all her glory. Shillong the capital city has a number of

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beautiful spots. They are: Ward's Lake, Lady Hydari Park, Polo Ground mini stadium, Elephant Falls and Shillong Peak overlooking the city and the golf course which is one of the best in the country.

TRANSPORT

ROADS

Three national highways pass through Meghalaya for a distance of 460 km. The state had 5,893 km of both surfaced and unsurfaced road in 1991-92.

RAILWAYS

The state is not connected by railway network.

AVIATION

Shillong is the only airport in the state. Vayudoot service caters to this airport.

GOVERNMENT

Governor	:	Madhukar Dighe
Chief Minister	:	D.D. Lapang
Speaker	:	P.R. Kyndiah
Chief Secretary	:	K.K. Sinha
Jurisdiction High Court	:	Falls under the juridication of Guwahati High Court

MIZORAM

Area: 21,081 sq km	*Population:* 6,86,217
Capital: Aizawl	*Principal Languages:* Mizo and English

HISTORY AND GEOGRAPHY

Mizoram is a mountainous region which became the 23rd state of Indian Union in February 1987. It was one of the districts of Assam till 1972 when it became a union territory. After being annexed by the British in 1891, for the first few years, Lushai Hills in the north remained under Assam while the southern half remained under Bengal. Both these parts were amalgamated in 1898 into one district called Lushai Hill district under the Chief Commissioner of Assam. With the implementation of the North-Eastern Reorganisation Act in 1972, Mizoram became a union territory and as a sequel to the signing of the historic memorandum of settlement between Government of India and the Mizo National Front in 1986, it was granted statehood on 20 February 1987.

Sandwitched between Burma in east and south and Bangladesh in west, Mizoram occupies an area of great strategic importance in north-eastern corner of India. Hills in Mizoram run from north to south with a tendency to be higher in east to the territory and tapering in north and south. Average height of hills is about 900 metre, the highest peak being Blue Mountain (Phawngpui) rising to 2,210 metre. Mizoram has great natural beauty and an endless variety of landscape and it is rich in fauna and flora.

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The word 'Mizo' is a generic term and is used to mean hillmen or high landers. They came under the influence of British missionaries in the 19th century and now most of the Mizos are Christians. One of the beneficial results of missionary activities was the spread of education . Mizo language has no script of its own. The missionaries introduced the Roman script for Mizo language and formal education.

AGRICULTURE

About 60 per cent of the people of Mizoram are engaged in agricultural pursuits. The main pattern of agriculture followed is *Jhum* or shifting cultivation. Out of the estimated potential available area of 4 lakh hectare for horticulture the area put under plantation is around 25,000 hectare only. The main horticulture crops are citrus like oranges, lemon, *Kagzi* lime, passion fruits, Hatkora, Jamir, pineapple and papaya. Other crops are sugarcane, tapioca and cotton. With the processing unit coming up such as Ginger Dehydration Plant at Sairang and fruit juice concentration plants people have started extensive cultivation of ginger and fruit crops. Out of potential flat land of 50,000 hectare only about 16,000 hectare have been put under cultivation so far. Fertilizer consumption has gone up from 16 kg/hectare in 1989 to 25 kg per hectare in 1992.

IRRIGATION

The ultimate surface irrigation potential is estimated at 70,000 hectare. Of which 45,000 hectare is under flow and 25,000 hectare for river lift irrigation. The irrigated areas has now gone up to 7,260 hectare by constructing and completing 30 *pucca* minor irrigation projects for raising double and tripple crops in a year. Another area of 2,250 hectare is expected to be under irrigation after the completion of on going 14 minor irrigation projects.

INDUSTRY

Entire Mizoram is a Notified Backward Area and is categorised under 'No Industry District'. However, concerted efforts were made to accelerate the growth of industries in Mizoram. For the development of industries in the state, the Mizoram government framed the industrial policy of Mizoram in 1989. In the policy resolution, priority industries have been identified. These are : Agro and forest based industries followed by handloom and handicrafts, electronics, consumer industries. Sericultures is operating at Aizawl with two full-fledged wings *viz*, handloom and handicrafts wing and geology and mining wing.

The completed projects of Ginger Oil and Oleoresin Plant and Ginger Dehydration Plant at Sairang and Fruit Preservation Factory at Vairengte and the projects under implementation namely Maize Processing Unit (renamed Maize Milling Plant) at Khawzawl and Fruit Juice Concentrate Plant at Chhingchhip were transferred to the newly incorporated Mizoram Food and Allied Industries Corporation (MIFCO) for Commercial operation. Maize Milling Plant also has been completed and commissioned by MIFCO.

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MIZORAM MARCHES TOWARDS ECONOMIC SELF-RELIANCE

With a view to attain economic self-sufficiency in power and production of food grains, Mizoram is harnessing its hydro-electric potential with vigour.

Simultaneously, for the maximum utilization of power, the Government is vigorously taking up the task of educating the rural masses in modern techniques and productive method of farming, introducing mechanisation and stimulating the growth of agro-based industries.

I&PRO NO.

ISSUED BY:

DIRECTORATE OF INFORMATION & PUBLIC RELATIONS
GOVERNMENT OF MIZORAM,
AIZAWL.

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POWER

Government is giving utmost importance to rural electrification, 517 villages have been electrified and part of its power demand is met through mini and micro hydel projects.Construction of 132 KV lines have been taken up to connect all the important load centres in the state so that grid power could be supplied throughout the state. Construction of Serlui 'B' Hydel Projects is being started. The state is making efforts to obtain early clearance for the 60 MW Tuirial Hydro Electric Project and investigation of Tuivai 210 MW Hydel Project. The proposed Chhimtuipui Hydel Project is also under active consideration.

TRANSPORT

Total road length is 4,787 km. National highway number 54 links Tuipang the southern most district of Mizoram to Silchar town in Assam in the border of Mizoram. Rail link in the state had been established at Bairabi. Aizawl, the capital town of the state, is air-linked by daily Vayudoot service. Mizoram State Transport, besides running passenger services in 33 routes including two inter-state services to Silchar in Assam and Shillong, also provides goods carriages at hire and also functions as 'Railway Out Agency' for Silchar railway station in Cachar district of Assam.

FESTIVALS

Mizos are basically agriculturist. All their activities centre round *Jhum* cultivation and their festivals are with such agricultural operations. *KUT* is the Mizo word for festival. Mizos have three major festivals called *Chapchar Kut, Mim Kut* and *Pawl Kut.*

TOURIST CENTRES

Aizawl hilly city located at nearly 4,000 feet above sea-level is a religious and cultural centre of Mizo where indigenous handicrafts are also available. Champhai is a beautiful resort on the Burma border. Tamdil is a natural lake with Virgin Forest around 60 km from Aizawl and ten km from the beautiful tourist resort of Situal where modern picnic facilities are being developed. Vantawng Fall is the highest and most beautiful waterfall in Mizoram. It is five km from the hill station of Thenzawl.

GOVERNMENT

Governor	:	Paty Ripple Kyndiah
Chief Minister	:	Lal Thanhawla
Speaker	:	Rokamlova
Chief Secretary	:	F. Pahnuna
Jurisdiction of High Court	:	Falls under the jurisdiction of Guwahati High Court. There is a bench at Mizoram.

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AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	(Area sq km)	Population	Headquarters
1. Aizawl	12,588	4,75,360	Aizawl
2. Lunglei	4,536	1,11,209	Lunglei
3. Chhimtuipui	3,957	99,648	Saiha

NAGALAND

Area: 16,579 sq. km.
Capital: Kohima
Population: 1,209,546
Principal Languages: Angami, Ao, Chang, Konyak,, Lotha, Sangtam and Sema

HISTORY AND GEOGRAPHY

Like other inhabitants of the north eastern region, the Nagas too have their share of legends and folklore regarding their origin and evolution through the ages. Nagas are basically tribal people and every tribe had its own effective system of self-governance from times immemorial. In the 12th and 13th centuries, gradual contact with the Ahoms of present day Assam was established, but this did not have any significant impact on the traditional Naga way of life. However, in the 19th century the British appeared on the scene and ultimately the area was brought under British administration. After Independence, this territory was made a Centrally administered area in 1957, administered by the Governor of Assam. It was known as the Naga Hills Tuensang Area. This however, failed to quell popular aspirations and unrest began. Hence, in 1961 this was renamed as Nagaland and after given the status of a state in the Indian Union was formally inaugurated in 1963. Situated in the extreme north-east of the country, the state is bounded by Arunachal Pradesh in the north, Assam in the west, Manipur in the south and by Burma (Myanmar) in the east.

AGRICULTURE

Agriculture is the main occupation of 90 per cent of population in the state. Rice is the important foodgrain. Area under *Jhum* cultivation is about 76,512 hectare and under terraced cultivation a mere 27,133 hectare.

INDUSTRY

Three medium level industries have been established. Nagaland Sugar Mill at Dimapur has an installed capacity of 1,000 tonne of cane per day. There is one pulp and paper mill at Tuli and one plywood factory at Tizit. In 1986 a *Khandsari* mill with a daily crushing capacity of 200 metric tonne was commissioned. In January 1988 a mechanised brick plant was commissioned at Dimapur. A TV assembly unit has also been set up at Dimapur. Handloom and handicrafts are important cottage industries. There are 500 private citronella cultivators. Minerals found in the state are clay, coal, limestone, glass, sand, etc. The Nagaland Industrial Development Corporation is the premier promotional organisation for providing assistance and guidance to entrepreneurs.

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IRRIGATION AND POWER

Minor irrigation works are mostly meant to divert small hill streamlets to irrigate valleys used for rice cultivation. Under minor irrigation, surface minor irrigation covered 2,700 hectare and ground water covered 100 hectare during 1991-92. Number of electrified villages stands at 1,112. Nagaland has achieved cent per cent electrification of rural areas.

TRANSPORT

ROADS

Road network consists of national, state, district and other roads with a total length of 9,315 km. The Nagaland State Transport operates on 111 routes daily with a total route of 12,073 km.

RAILWAYS/AVIATION

Dimapur is the only place where rail and air services are available. Besides there is a tri-weekly boeing service connecting Dimapur with Guwahati and Calcutta.

FESTIVALS

Some of the important festivals are *Sekrenyi, Moatsu, Tuluni and Tokhu Emong*. All tribes celebrate their distinct seasonal festivals with a pageantry of colour and feast of music.

GOVERNMENT

Governor	:	Lt. Gen. V.K. Nayar
Chief Minister	:	S.C. Jamir
Speaker	:	Neiba Ndang
Chief Secretary	:	C.K. Lotha
Jurisdiction of High Court:	:	Falls under the jurisdiction of Guwahati High Court.There is a bench at Kohima

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq. km.)	Population	Headquarters
1. Kohima	4,041	3,87,581	Kohima
2. Mokokchung	1,615	1,58,374	Mokokchung
3. Mon	1,786	1,49,699	Mon
4. Phek	2,026	1,02,156	Phek
5. Tuensang	4,228	2,32,906	Tuensang
6. Wokha	1,628	82,612	Wokha
7. Zunheboto	1,255	96,218	Zunheboto

ORISSA

Area: 1,55,707 sq km
Capital: Bhubaneswar
Population: 31,659,736
Principal Language: Oriya

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HISTORY AND GEOGRAPHY

Orissa the land of Oriyas, was known as Kalinga in ancient days. In the third century BC (268 BC) Ashoka the Mauryan emperor, sent a powerful force to conquer Kalinga which offered stubborn resistance. Kalinga was subdued but the carnage which followed, struck Ashoka with remorse. After the death of Ashoka, Kalinga regained its independence. In the second century BC, it became a powerful country under Kharavela. With the death of Kharavela, Orissa passed in to obscurity. In the fourth century AD, Samudragupta invaded Orissa which lay astride his path and overcame resistance offered by five of its kings. In 610 AD, Orissa came under the sway of King Sasanka. After Sasanka's death, Harsha conquered Orissa.

Orissa had its own independent dynasty of rulers (Ganga dynasty) in the seventh century AD. In 795 AD Mahasivagupta Yajati II came to throne and with him began the most brilliant epoch in the history of Orissa. He united Kalinga, Kangada, Utkal and Koshala in the imperial tradition of Kharavela. Under kings of Ganga dynasty, Orissa continued to flourish. Narashingha Dev of this dynasty is reputed to have built the unique Sun Temple at Konark. From the 14th century, Orissa was ruled successively by five Muslim kings till 1592, when Akbar annexed it to the Mughal empire. With the decline of the Mughals, Marathas occupied Orissa. They continued to hold it till the British took over in 1803.

Orissa was made into a separate province in 1936. After Independence, princely states in and around Orissa surrendered their sovereignty to the Government of India. By the States Merger (Governor's provinces) Order, 1949, princely states of Orissa were completely merged with the state of Orissa in August 1949. Although state of Orissa has many ancient names like Kalinga, Utkal and Udra, it is also widely known as the land of Lord Jagannath. Lord Jagannath is intimately connected with the social, cultural and religious life of Orissa. Jainism, Islam and Christianity had considerable impact on the people of Orissa in different periods.

Orissa is situated in the north-eastern section of the Indian peninsula, slightly arched by placid blue water of the Bay of Bengal on the east. Orissa is bounded on the north by Bihar, on the west by Madhya Pradesh, on the north-east by West Bengal and on the south by Andhra Pradesh. The state may be broadly divided into four distinct geographical regions, each with different characteristics—northern plateau, central river basin, eastern hills and coastal plains.

AGRICULTURE

The agricultural sector absorbs about 80 per cent of the total work force of the state and contributes more than 50 per cent of the state's domestic product. Paddy continues to be the principal crop of the state and cultivation of rice is main occupation of 75 per cent people of the state.

Foodgrains production in 1991-92 was 83.59 lakh metric tonnes. Yield of rice in 1991-92 was 1,465 kg per hectare and fertilizer consumption

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during this period was 21 kg per hectare. Oilseeds cultivation of the state in 1991-92 was 11.93 lakh hectare from which the groundnut cultivation was 3.96 lakh hectare. Soyabean cultivation during this year was 849 hectare. During 1992-93, the total anticipated production of rice is expected to be of the order of 64.52 lakh metric tonnes. Government have fixed a target of production of 72.37 lakh metric tonnes of rice for 1993-94. Considerable emphasis has been given to increasing production of oilseeds and pulses. Agro-climatic conditions of the state are very favourable for extensive promotion of horticulture. During 1992-93, a programme has been under taken by the state government for plantation of different fruits in compact patches over 5,000 hectare.

Orissa has a forest area of 57,183 sq km which is 36.89 per cent of the total geographical area of the state. During 1992-93, 33,485 hectare area has been covered under plantation programme. Social Forestry Project aided by Swedish International Development Authority (SIDA) was launched in the year 1983-84. During 1991-92, 10,170 hectare of land has been brought under plantation under the SIDA project and it has been estimated to bring another 15,500 hectare under the same project during 1992-93.

INDUSTRY

Pace of industrial progress has been quickened in recent years. Before the Sixth Plan there were only 57 large and medium industries. During the Sixth Plan 91 large and medium industries were established. By the end of the Seventh Plan, 231 large and medium industries with total investment of Rs 1,044.88 crore were set up. During April 1990 to December 1992, 40 large and medium industries with an investment of Rs 185 crore have been established which have created an employment opportunity for 5,000 people. During this period, 4,482 small scale industries with the investment of Rs 113 crore have been established in which 31,000 persons are engaged. Another employment facility is created for 2,48,000 people by spending Rs 47 crore by establishing 1,33,000 cottage industries.

State government has declared a new industrial policy in the year 1992. Government is giving more emphasis for the promotion of the following industries: (i) export oriented industries; (ii) leather; (iii) gem stone and granite cutting; (iv) ancillary industries of sponge-iron, pig iron, ferro-alloys and steel; (v) electronics (hardware and software); (vi) seed production and bio-technology; (vii) agriculture, marine products and food processing; (viii) tea, coffee, rubber, cashewnuts and spices processing industries; (ix) synthetic, fibre and textile industries; (x) plastic; and (xi) industries related to power production.

IRRIGATION AND POWER

Total cultivated land of the state is 65.59 lakh hectare and about 59 lakh hectare can be brought under irrigation through different sources. 927.43

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thousand hectare of *kharif* and 431.44 thousand hectare of *rabi* irrigation potential has been created by the end of Seventh Plan and there is a target for Eighth Plan to create 283.47 thousand hectare *kharif* and 192.62 thousand hectare of *rabi* irrigation facility. The total irrigation potential created by July 1992 is 9.53 lakh kharif and 43.9 lakh hectare of rabi crops. The state plan outlay under major and medium irrigation sector for Eighth Plan has been finalised at Rs 2,614.33 crore with a target to create additional irrigation potential of 249.55 thousand hectare of kharif and 154.29 thousand hectare of rabi under state sector. Eleven each major irrigation projects and medium irrigation projects are under execution and 17 other projects are under modernisation. During 1991-92, Rs 480 crore was allotted to rise the electric generation in the state. In the Seventh Plan, the two units each of first phase and second phase of Rengali hydro power plant and another three units of Upper Kolab Power plant have been completed which is generating 135 mw of electricity. State is getting another 67 mw of electricity from Central projects like Parakha and Chukha. Now the total generation of electricity is raised upto 721 mw. The 7th unit of the Hirakud hydro electricity project is functioning from September 1992. State has fixed a target to generate 906 mw of electricity by the end of the Eighth Plan.

TRANSPORT

ROADS

In 1991, the length of the state highways was 2,860 km, national highways 1,624 km, PWD roads 11,953 km, council roads 8,697 km, and other roads 1,76,713 km and 67 km expressway connecting Daitari mining area with Paradeep port. State government has merged two transport organisations-OSRTC and ORT into a single transport company to provide healthy transport facility to public. 2,075 private buses, 900 (OSRTC) buses are now moving on the 556 different routes of the state. In 1991, 22,981 trucks and 1,368 buses had been issued road permit.

RAILWAYS

Total length of railways in the state by the end of 1992 was 2,000 km from which 1,858 km are broad guage and 143 km narrow gauge. A new Railway Division is functioning at Sambalpur from March 1990. Talcher Angul Railways has been opened for traffic.

AVIATION

There is an airport at Bhubaneswar with regular scheduled service to New Delhi, Varanasi, Calcutta, Nagpur, Hyderabad, Bombay and Madras. Now 17 air-strips and 16 helipads are functioning at different parts of the state for state aviation.

PORTS

Paradeep which was declared a major port in 1966 has been developed to handle 6.05 million tonnes of traffic. While Gopalpur has been declared as a minor port in 1987 with a capacity of 5.25 lakh tonnes of traffic, Bahabalpur

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has been declared a minor port in the year 1991. There are some fishing jetties at Gopalpur, Paradeep and Dhamara, like wise some launching jettie at Chandbali, Balugaon, Astrang and Satpada.

TOURIST CENTRES

Bhubaneswar is the state capital and famous for Lingaraj Temple while Puri is famous for Lord Jagannath and its beautiful seabeach. The sun temple at Konark called Black Pagoda is famous for living statues engraved in stone. Nandankanan is famous for zoological park where the rare white tigers are found. Chilika lake is famous for scenic colourful pictures where migrated birds from all over the world are found and the famous Kalijai temple is situated inside the lake. Other tourist interest places are Dhauli Budhist temple, Udayagiri-Khandagiri ancient caves, Ratnagiri-Lalitgiri and Udayagiri, Buddhist images and ancient caves, Saptasajya scenic view of hill beds. Similipal National Park and Tiger Project, Hirakud Dam, Duduma Waterfall, Ushakothi Wildlife Sanctuary, Gopalpur Sea beach, Harishankar, Nrusinghanath, Taratarini, Taptapani, Bhitarkanika, Bhimakunda Kapilash etc., are famous.

GOVERNMENT

Governor	:	B. Satyanarayan Reddy
Chief Minister	:	Biju Patnaik
Speaker	:	Yudhisthir Das
Chief Secretary	:	R.N. Das
Chief Justice	:	Justice Banawarilal Hansaria
Jurisdiction of High Court	:	Orissa

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area	Population	Headquarters
1. Angul	6,347	9,58,003	Angul
2. Balasore	3,706	16,92,439	Balasore
3. Bolangir	6,552	12,27,345	Bolangir
4. Bhadrak	2,788	11,03,882	Bhadrak
5. Bargarh	5,832	12,03,630	Bargarh
6. Cuttack	3,915	20,43,338	Cuttack
7. Dhenkanal	4,597	9,42,672	Dhenkanal
8. Ganjam	8,033	26,84,379	Chhatrapur
9. Gajapati	3,056	4,58,741	Parlakhemundi
10. Jagatsinghpur	1,759	9,33,296	Jagatsinghpur
11. Jajpur	2,885	13,80,203	Panikoili
12. Keonjhar	8,336	13,15,627	Keonjhar
13. Kalahandi	8,197	11,28,659	Bhawanipatna
14. Koraput	8,534	10,55,824	Koraput
15. Kundrapara	2,546	11,46,470	Kendrapara
16. Khurda	2,888	14,97,846	Bhubaneswar
17. Mayurbhanj	10,410	18,71,796	Baripada
18. Malkangiri	6,115	4,20,950	Malkangiri
19. Nawarangpur	5,135	8,08,215	Nawarangpur

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District	Area	Population	Headquarters
20. Nayagarh	3,954	7,76,784	Nayagarh
21. Nawapara	3,408	4,63,325	Nawapara
22. Puri	3,055	12,95,562	Puri
23. Phulbani	8,910	85,85,533	Phulbani
24. Rayagada	7,585	7,14,599	Rayagada
25. Sambalpur	11,689	14;84,765	Sambalpur
26. Sundargarh	9,942	15,68,442	Sundargarh
27. Sonepur	2,284	4,76,410	Sonepur.

Earlier there were only 13 districts. Ten districts on 1 April 1992 and four in October 1992 were created.

PUNJAB

Area: 50,362 sq km *Population:* 2,01,90,795
Capital: Chandigarh *Principal Language:* Punjabi

HISTORY AND GEOGRAPHY

Ancient Punjab formed part of the vast Indo-Iranian region. In the later years it saw the rise and fall of various powers like Mauryans, Bactrian Greeks, Sakas, Kushans and Guptas. Medieval Punjab saw the supermacy of the Muslims. The first Muslim dynasty was followed by the Ghoris, the Slaves, the Khalijis, the Tughlaks, the Sayyids, the Lodhis and the Mughals. Fifteenth and sixteenth centuries mark a period of watershed in the history of Punjab. *Bhakti* Movement received a great impetus with the advent of Sikhism on the scene. *Prima facie,* it was a socio-religious movement which was more interested in fighting evils in religion and society. But in the process of its evolution, it was forced by circumstances to acquire militancy. It was Guru Gobind Singh, the tenth *Guru,* who transformed Sikhs into a 'militant sect' and created *Khalsas*. They rose to challenge and overthrow the Mughal empire in the north. Infact, it was the intolerance of the Mughal emperors which turned peaceful Sikhs into a warring race.

Fighting the Mughals had become a regular campaign in Sikh history, Guru Gobind Singh was succeeded by Banda Singh Bahadur and after his death in 1716, political influence of Sikhs dwindled and disappeared from Punjab. However, with the deterioration of the Mughals in Delhi, Sikhs began re-organising themselves and *Misls-Confederacies* came into existence. In one of the *Misls* was born Ranjit Singh who united all other confederacies and built a mighty kingdom of the Sikhs. But soon after his death, entire edifice collapsed on account of internal intrigues and British mechanisations. After two abortive Anglo-Sikh Wars, Punjab was finally annexed to the British empire in 1849.

Fight against British rule had begun long before Mahatma Gandhi's arrival on the scene. Revolt was expressed through religious movement of a revivalist or reformist character. First, it was the *Namdhari* sect which believed in self-discipline and self-rule. Later, it was Lala Lajpat Rai who

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played a leading role in the freedom movement. Punjab's tale of woe did not culminate with independence as it had to face the holocaust of partition alongwith displaced persons with harrowing memories. Besides their rehabilitation, there was the task of reorganisation of the state. Eight princely states of east Punjab were grouped together to form one single state called PEPSU- Patiala and the East Punjab States Union with Patiala as its capital. PEPSU state was merged with Punjab in 1956. The reorganised Punjab came into being in 1966. Situated in north-western corner of the country, Punjab is bound on west by Pakistan, on north by Jammu and Kashmir, on north-east by Himachal Pradesh and on south by Haryana and Rajasthan.

AGRICULTURE

About 83.5 per cent of the total geographical area of Punjab is under cultivation. Three-fourth of population is engaged in agriculture. The state is surplus in foodgrains specially wheat and rice. Other main foodgrains are maize, gram and pulses. Production of foodgrains during 1991-92 was 196.36 lakh tonnes. Major cash crops are oilseeds, sugarcane, cotton and potato. Punjab having only 1.54 per cent geographical area of the country, had contributed 61 per cent wheat and 43 per cent rice to the Central Pool during 1991-92 crop season. Total forest area till 1991-92 is 2,86,606 hectare. Out of this 1,36,732 hectare is Government forest area and balance 1,49,874 hectare is private forest area closed under Section 4 and 5 of Punjab Land Preservation Act, 1900 and Section 38 of Indian Forest Act, 1927.

INDUSTRY

Important industrial items produced in the state are bicycle parts, sewing machines, hand-tools, machine tools, auto-parts, electronic items, sports, surgical and leather goods, hosiery, knitwear, fastners, nut and bolts, textiles, sugar, vegetable oils etc. Till March 1992, there were 1.75 lakh small industrial units with an investment of Rs 1,475 crore giving employment to 7.20 lakh persons. Besides there were 395 large and medium units with an investment of over Rs 4,700 crore giving employment to more than 1.96 lakh persons.

IRRIGATION AND POWER

Important irrigation works implemented since 1947 are Bhakra Nangal Dam, Bhakra Canals, Harike Barrage with a new-lined canal called Sirhind Feeder and re-modelling of Madhopur head-works into barrage. Madhopur-Beas link was constructed to transfer surplus waters of Ravi to Beas. A similar project, Sutlej-Beas Link Project has been completed. Pong Dam on the Beas is an important hydro-electric project. First power house comprising three units of Mukerian Hydel Project was commissioned in October 1983.

First unit of Stage-I of Guru Gobind Singh Thermal Plant (earlier known as Ropar Thermal Plant) was commissioned in September 1984 and the second unit of Stage II was commissioned in March 1985. One unit of

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Power Plant Stage III was commissioned during January 1993. Rice straw thermal power plant, Jalkheri, the non-conventional source of energy project, is first of its kind in India. The work of this project was allotted to BHEL and it will cost Rs 3,630 crore.

Total installed capacity in different fields of power development by 1992 was 3,291 mw. The state already achieved cent per cent electrification in May 1976. The Ranjit Sagar Dam Project is under construction.

Three dams namely Dholbaha dam, Janauri and Maile stand already constructed under phase-I of the World Bank agreement. Another nine dams are to be constructed by 1996-97 under World Bank Project. Punjab Irrigation and Drainage Project, phase-II. Damsall Dam has already been constructed. Construction work on Perch Dam has been taken up in February 1991.

TRANSPORT

ROADS

Surfaced road length as on 31 March 1992 was 38,723 km and of provincial highways were 37,735 km while national highway were of 988 km.

RAILWAY

Rail network in Punjab is extensive and length of the rail routes passing through the state is around 3,636.19 km. Rail communication with Pakistan also emanantes from Punjab (Amritsar).

AVIATION

There are airports at Amritsar, Bhatinda, Ludhiana and Chandigarh.

TOURIST CENTRES

Main tourist centres are: Amritsar (Golden Temple, Durgiana Mandir, Jallianwala Bagh), Anandpur Sahib, Bhakra-Nangal, Jalandhar, Ludhiana, Pathankot, Patiala etc.

GOVERNMENT

Governor	:	Surendra Nath
Chief Minister	:	Beant Singh
Chief Secretary	:	A.S. Chattha
Chief Justice	:	S.D. Aggarwal
Jurisdiction of High Court	:	Punjab and Haryana

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq km)	Population	Headquarters
1. Amritsar	5,087	25,01,731	Amritsar
2. Bhatinda	5,551	15,54,948	Bhatinda
3. Faridkot	5,740	17,25,212	Faridkot
4. Ferozepur	5,874	15,99,501	Ferozepur

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District	Area	Population	Headquarters
5. Gurdaspur	3,562	17,65,834	Gurdaspur
6. Hoshiarpur	3,881	14,30,210	Jalandhar
7. Jalandhar	3,401	20,33,994	Jalandhar
8. Kapurthala	1,633	6,41,884	Kapurthala
9. Ludhiana	3,857	24,25,868	Ludhiana
10. Patiala	4,584	19,04,321	Patiala
11. Rupnagar	2,085	9,05,629	Rupnagar
12. Sangrur	5,107	17,01,663	Sangrur

Recently two more districts namely Fatehgarh Sahib and Mansa with headquarters at Fatehgarh Sahib and Mansa respectively have been created.

RAJASTHAN

Area :3,42,239 sq km — *Population*: 4,40,05,990.
Capital: Jaipur — *Principal Languages*: Hindi and Rajasthani

HISTORY AND GEOGRAPHY

Rajasthan is the second largest state in India areawise. Prior to Independence, the state was known as Rajputana or the home of Rajputs, a martial community who ruled over this area for centuries. History of Rajasthan dates back to the prehistoric times. Around 3000 and 1000 BC, it had a culture akin to that of Indus Valley civilisation. It was the Chauhans who dominated Rajput affairs from seventh century and by 12th century they had become an imperial power. After the Chauhans, it was the Guhilots of Mewar who controlled the destiny of the warring tribes. Besides Mewar, other states also historically prominent were Marwar, Jaipur, Bundi, Kota, Bharatpur and Alwar. Other states were only offshoots of these. All these states accepted British Treaty of Subordinate Alliance in 1818 as it protected the interest of the princes. It naturally left the people discontented.

After the revolt of 1857, the people united themselves under the leadership of Mahatma Gandhi to contribute to the freedom movement. With the introduction of provincial autonomy in 1935 in British India, agitation for civil liberties and political rights became stronger in Rajasthan. The process of uniting scattered states commenced from 1948 to 1956 when the States Reorganisation Act was promulgated. First came Matsya Union (1948) consisting of a fraction of states. Slowly and gradually other states merged with this Union. By 1949, major states like Bikaner, Jaipur, Jodhpur and Jaisalmer joined this Union making it United State of Greater Rajasthan. Ultimately in 1956, present state of Rajasthan formally came into being with Ajmer state, Abu Road Taluka and Sunel Tappa joining it.

Entire western flank of the state borders with Pakistan while Punjab, Haryana, Uttar Pradesh and Madhya Pradesh bound Rajasthan in north, north-east and south-east and Gujarat in south-west.

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AGRICULTURE

Total cultivable area in the state is 274.71 (1992-93) lakh hectare, sown area 181.21 (1993-94) lakh hectare and irrigated area 53.50 (1992-93) lakh hectare. Estimated agricultural production was above 147.57 lakh tonnes (1993-94). Principal crops cultivated in the state are *jowar, bajra,* maize, gram, wheat, oilseeds, cotton, pulses and tobacco. Cultivation of vegetable and citrus fruits orange and malta also picked up over the past few years. Commercial crops are red chillies, *methi, hing,* mustard and cuminseed.

INDUSTRY AND MINERALS

Major industries are textiles, rugged and woollen goods, sugar, cement, glass, sodium plants, oxygen and acetylene, vegetable dyes, pesticides, insecticides, zinc ingots and sheets, fertilizers, railway wagons, ball bearing, water and electric meters, sulphuric acid, television sets, synthetic yarn and insulating bricks, polished and unpolished precious and semiprecious stones, spirit and wine etc. Besides, caustic soda, calcium carbide, nylon and tyre cords, etc., are also produced. Important central undertakings are zinc smelter plant in Dehari (Udaipur) copper plant at Khetri-Jhunjhunu and precision instrument factory at Kota. Small scale industrial units numbered 1.63 lakh with a capital investment of Rs 1,148.10 crore and employment potential of 5.94 lakh persons. Rajasthan account for the entire output of zinc concentrates, emerald and garnet, gypsum-94 per cent, silver ore-76 per cent, asbestos-84 per cent, felspar-68 per cent and mica-12 per cent. The state has rich deposits of salt, rock phosphate, marble and red-stone.

IRRIGATION AND POWER

Irrigation potential in the state had been raised to a level of 50,142 hectare by March 1993. Provisions for irrigation in the year 1992-93 was Rs 25,280 lakh for additional irrigation on 55,965 hectare.

Besides generation of 40,53 mega unit of power from its own resources, the state purchased 6,621 mega unit of power from neighbouring states. Number of villages electrified and that of wells energised as in March 1993 was 29,281 and 4,30,123 respectively.

TRANSPORT

ROADS

Total length of roads is 61,520 km as on 31 March 1993.

RAILWAYS

Jodhpur, Jaipur, Udaipur, Ajmer, Bikaner, Kota and Bharatpur are main rail junctions on broad gauge line linking Delhi and Bombay.

AVIATION

Regular air services connect Jaipur, Jodhpur and Udaipur with Delhi and Bombay and Vayudoot service links Bikaner, Jaisalmer, Jodhpur and Kota.

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FESTIVALS

Besides the national festivals of *Holi, Deepawali, Vijayadashmi, Muharam,* Christmas, etc., birth anniversaries of gods and goddesses, saintly figures and folk heroes and heroines are celebrated. Important fairs are *Teej, Gangaur* (Jaipur) annual *Urs* of Ajmer Sherif and Galiakot, tribal *kumbh* of Beneshwar (Dungarpur), *Mahaveer Fair* at Shri Mahaveerji in Sawai Madhopur (Ramdeora Jaisalmer), *Gogaji Fair* (Gogamedi-Ganganagar), *Tejaji Fair* (Parbetsar-Nagaur), *Janbhenshwarji Fair* (Mukam-Bikaner), *Kartik-Poornima* and cattle fair (Pushkar-Ajmer) and *Shyamji Fair* (Sikar) etc.

TOURIST CENTRES

Jaipur, Jodhpur, Udaipur, Bikaner, Mount Abu, Sariska tiger sanctuary in Alwar, Keoladeo bird sanctuary in Bharatpur, Ajmer, Jaisalmer, Pali and Chittorgarh are important places of tourist interest in the state.

GOVERNMENT

Governor	:	Baliram Bhagat
Chief Minister	:	Bhairon Singh Sekhawat
Speaker	:	Hari Shankar Bhabhra.
Chief Secretary	:	G..J. Mishra
Jurisdiction of High Court	:	Rajasthan

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

	District	Area (sq km)	Population (as per 1991)	Headquarters
1.	Ajmer	8,481	17,29,207	Ajmer
2.	Alwar	8,380	22,96,580	Alwar
3.	Banswara	5,037	11,55,600	Banswara
4.	Barmer	28,387	14,35,222	Barmer
5.	Bharatpur	5,066	16,51,584	Bharatpur
6.	Bhilwara	10,455	15,83,128	Bhilwara
7.	Bikaner	27,244	12,11,140	Bikaner
8.	Bundi	5,550	7,70,248	Bundi
9.	Chittorgarh	10,856	14,84,190	Chittorgarh
10.	Churu	16,830	15,43,211	Churu
11.	Dholpur	3,084	7,49,479	Dholpur
12.	Dungarpur	3,770	8,74,549	Dungarpur
13.	Ganganagar	20,634	26,22,777	Ganganagar
14.	Jaipur	14,068	47,22,551	Jaipur
15.	Jaisalmer	38,401	3,44,517	Jaisalmer
16.	Jalore	10,640	11,42,563	Jalore
17.	Jhalawar	6,928	9,56,971	Jhalawar
18.	Jhunjhunu	5,928	15,82,421	Jhunjhunu
19.	Jodhpur	22,850	21,53,483	Jodhpur
20.	Kota	12,436	20,30,831	Kota
21.	Nagaur	17,718	21,44,810	Nagaur
22.	Pali	12,387	14,86,432	Pali
23.	Sawai Modhopur	10,527	19,63,246	Sawai Madhopur
24.	Sikar	7,732	18,42,914	Sikar

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	District	Area (sq km)		Population (as per 1991)	Headquarters
25.	Sirohi	5,136		6,54,029	Sirohi
26.	Tonk	7,194		9,75,006	Tonk
27.	Udaipur	17,279		28,89,301	Udaipur
28.	Dausa	2,92,770	Ha Included in Jaipur		Dausa
29.	Baran	6,955	sq km included in Kota		Baran
30.	Raj Samand	4,867	sq km included inUdaipur		Raj Samand

SIKKIM

Area : 7,096 sq km
Capital : Gangtok
Population: 4,05,505
Principle Languages : Lepcha, Bhutia, Nepali and Limbue,

HISTORY AND GEOGRAPHY

Very little is known about the early history of Sikkim. It is commonly believed that in the 17th century Phuntsog Namgyal became the first leader of the Namgyal dynasty which ruled till Sikkim joined Indian Union in 1975. A mountain state in the eastern Himalayas, Sikkim is bound on west by Nepal, on north by Tibet, on east by Bhutan and on south by West Bengal. Sikkim is strategically important for India as it lies astride the shortest route from India to Tibet. The state is entirely mountainous. Covered with dense forests where *sal, simal,* bamboo and other trees thrive, some finest forests lie in the northern most areas in Lachen and Lachung. Mountains rise to 7,000 m and above, Kanchenjunga being world's third highest peak. Sikkim had several hundred varieties of orchids and is frequently referred to as 'botanist's paradise'.

AGRICULTURE

State's economy is basically agrarian. Maize, rice, wheat, potato, large cardamom, ginger and orange are principle crops. Sikkim has the largest area and the highest production of cardamom in India. Ginger, potato, orange and off-season vegetables are other cash crops. Since the area available for cultivation constitutes only 11 to 12 per cent of total land utilisation in the state, scope of increasing production through area expansion is limited. Thrust in agriculture development, therefore, has been to maximise productivity and net income per unit area. Emphasis, at present, is being given for development of commercial and horticulture crops and Floriculture is also being promoted. Intensive agriculture is being followed with adequate support of inputs.

INDUSTRY

Sikkim has been declared as industrially backward and the Department of Industries has launched a number of promotional schemes. In order to plan

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strategy to develop industrial climate in the state, 'No Industries District Survey Reports' have been prepared in respect of two of the four districts. The Industries Department has laid emphasis not only on the promotion and development of various types of small and tiny industries, but is also generating employment opportunities by transforming the unemployed local persons into successful entrepreneurs. During the last six years, the Department has granted more than 400 provisional registrations to perspective entrepreneurs and accorded permanent registration to 147 units after their establishment. The Department under the revised liberalised incentives package sanctioned incentives worth Rs 32.85 lakh to more than 50 tiny, cottage and small scale industries operating in the state.

Temi Tea Estate, the only tea estate in Sikkim with an area around 400 acres has earned great reputation both in domestic as well as foreign markets for its superior quality tea. A number of industrial units have sprung up in the state. They produce fruit jam and juice, bakery products, beer, matches, washing soap, plastic goods, wrist watches, leather goods, electric cables, barbed wires and industrial jewels. At the same time, consistent efforts have been made to promote and preserve traditional arts and crafts such as wood carving, carpet weaving, *thanka* painting and *lepcha* weaving.

IRRIGATION AND POWER

During the Seventh Plan period (1985 to 1990) many new irrigation schemes for providing assured water both for *Kharif* and *Rabi* cropping were taken up and to avoid damages to open channels due to landslides, concrete hume pipes and HDPE pipes in sinking areas, were used extensively. Within this period, an additional irrigation potential of 6,359 hectare was created and corresponding 5,530 hectare of potential was utilised.

For the year 1990-91 the potential creation was 1,013 hectare with potential utilisation of 959 hectare. The state has initiated steps to assess the total water resource, in collaboration with the Agriculture Finance Corporation

A 200 kw micro hydel scheme at Lachung in north Sikkim has been commissioned. Two more similar schemes are to be taken up during the Eighth Plan period in a phased manner. Work on 4 MW Mayongchu Hydel Project in north Sikkim and 8 MW Upper Rongnichu Hydel Project in east Sikkim taken up during 1986-87 have also been completed. The total power potential of the state is 8,000 MW.

TRANSPORT

ROADS

Road length in the state is 2,383 km.

RAILWAYS

Nearest railway station is in Siliguri in West Bengal.

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The TATA 407 is the champion in the world of Light Commercial Vehicles. Yes, the TATA 407 is the hands-down winner – outselling all other makes of Light Commercial Vehicles.

Because the TATA 407 has been created, not adapted, for Indian conditions.

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More good things come with the TATA 407 – including the Hire Purchase Scheme.

The TATA 407 is available at an attractive initial down payment – thanks to the Hire Purchase Scheme. (The scheme is also applicable to other Tata vehicles.)

Other good things: India's largest network of 146 dealers and service centres that ensures countrywide after-sales service and easy availability of spare parts.

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THE TATA 407: INDIA'S NO.1 LCV BECAUSE IT HAS BEEN CREATED, NOT ADAPTED, FOR INDIAN CONDITIONS

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AVIATION

There is no airport in Sikkim. Bagdogra airport in West Bangal caters to the state.

FESTIVALS

Main festivals of Sikkim are *Maghey Sankrati, Losar, Chaita Dasai, Durga Puja, Laxmi Puja, Losoong and Namsoong.*

TOURIST CENTRES

Some important tourist centres are Gangtok, Bankhim-natural garden, Yuksam-meeting place of three great Lamas, Dubdi monastery, Tashiding, Rumtek monastery, Pemayantse monastery, Changu Lake and Phodong monastery.

GOVERNMENT

Governor	:	Admiral (Retd) R.H. Tahiliani
	:	PVSM AVSM.
Chief Minister	:	Nar Bahadur Bhandari
Speaker	:	Dorjee Tshering Bhutia
Chief Secretary	:	K.A. Varadhan
Chief Justice	:	Justice S.N. Bhargava
Jurisdiction of High Court	:	Sikkim

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

	District	Area (sq Km)	Population	Headquarters
1.	East District	954	1,77,149	Gangtok
2.	North District	4,226	31,143	Mangan
3.	South District	750	99,500	Namchi
4.	West District	1,166	97,713	Gyakshing

TAMIL NADU

Area: 1,30,058 sq km
Capital: Madras
Population: 5,56,38,318
Principal Language: Tamil

HISTORY AND GEOGRAPHY

Tamil Nadu has a hoary antiquity. Even from Pre-*Sangam* age i.e. from fourth century BC it possesses recorded history. Tamil Nadu had remained under the hegemony of the Cholas, the Cheras and the Pandyas till third century AD. While the Pallavas held supremacy on the northern part, the Kalabhras had occupied the southern part of Tamil Nadu till sixth century AD. Afterwards Pallavas continued to rule with Kancheepuram as their capital till ninth century AD on the northern part. The early Pandyas who conquered over Kalabhras had ruled the southern part of Tamil Nadu having Madurai as

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their capital. Both were the originators of the famous Dravidian style of temple architecture. The last Pallavas ruler was Aparajita in whose reign the imperial Cholas under Vijayalaya and Aditya asserted themselves by about ninth century. For four centuries from 9th to 13th Tamil Nadu was under the control of the great Cholas. Then it was ruled later by Pandyas starting from Jatavarman Sundara Pandya.

Muslims gradually strengthened their position which led to the establishment of the Bahamani sultanate by the middle of the 14th century. At the same time, the Vijayanagar kingdom quickly consolidated itself and extended its sway over the whole of south India and at the close of the century, Vijayanagar kingdom became the supreme power in the south. However, it crumbled in the battle of Talikota in 1564 to the confederate forces of the Deccan sultans.

Even during the period of the tumultuous confusion that followed the Battle of Talikota, European commercial interests had appeared as rivals in the area of south India. The Portuguese, the Dutch, the French and the English came in quick succession and established trading centres known as factories. East India Company which had established their factory at Masulipatnam, now in Andhra Pradesh, in 1611, gradually annexed territories by encouraging enmity among the native rulers. Tamil Nadu was one of the first British settlements in India. The state is the successor to the old Madras Presidency which in 1901 covered the bulk of the southern peninsula. The composite Madras State was later reorganised and the present Tamil Nadu was formed. Tamil Nadu is bounded on north by Andhra Pradesh and Karnataka, on west by Kerala, on east by the Bay of Bengal and on south by the Indian Ocean.

AGRICULTURE

Agriculture is an important primary sector, providing food to the growing population, raw materials to the agro based industries and various other products to fulfil the basic needs. The economy depends largely on agricultural sector as more than 70 per cent of the population are engaged in agriculture. Major food crops are rice, *jawar, ragi, bajra,* maize and pulses. Important commercial crops that are grown in Tamil Nadu are sugarcane, cotton, groundnut, sesame sunflower, castor, chillies, banana, mango, coffee, tea, rubber, cashew, coconut, etc. Major forest products are timber, sandalwood, pulpwood and fuelwood. Minor products are bamboo, eucalyptus, rubber, tea (green leaves), cashew, honey, ivory, etc.

Tamil Nadu occupies a premier position in the production and extensive application of bio-fertiliser *viz.,* Rhizobium azospyrillum, phospho bacteriam etc.

INDUSTRY AND MINERALS

Major industries are cotton textiles, chemical fertilisers, paper and its products, printing and allied industries, diesel engines, automobiles and its

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ancillaries, bicycles, cement, sugar, iron, steel, railway wagons and coaches. A number of public sector undertakings are located in the state. Important among them are the Neyveli Lignite Corporation, Integral Coach Factory, High Pressure Boiler Plant, Hindustan Teleprinters, Hindustan Photo Films, Madras Refineries, Madras Fertilisers, Heavy Vehicles Factory and Pualur Paper Factory. Tamil Nadu accounts for nearly one fourth of the spinning capacity in India, one fifth of cement, caustic soda and nitrogenous fertilisers and one tenth of the nation's production of sugar, bicycles and calcium carbide are produced here, besides, safety matches and finished leather goods. Limestone, magnesite, mica, quartz, felspar, salt, bauxite, lignite and gypsum are some of the minerals found in the state. The state is an important exporter of tanned skin and hides and leather goods, cotton piece goods and yarn, tea, coffee, spices, engineering goods, tobacco, handicrafts and black granites.

IRRIGATION AND POWER

Important irrigation schemes implemented since Independence are the Lower Bhavani, the Amaravathi, the Vaigai, the Parambikulam-Aliyar, the Krishnagiri, the Sattanpur, the Pullambadi-Kattalai High Level Canal, the Gomukhi Nadhi, Chittar Pattanamkal and the Pennaniar. Besides, the state has a number of hydro-electric stations and thermal stations. The atomic power plant at Kalpakkam in Chengalpattul MGR district was commissioned in 1983.

TRANSPORT

ROADS

The length of the road network in Tamil Nadu is nearly 1.70 lakh km including about 2,002 km of national highways.

RAILWAYS

Main rail junctions in the state include Madras, Madurai, Tiruchirappalli, Coimbatore, Salem etc.

AVIATION

The southern region's international airport, Madras, is the main centre of airline routes of this part of the country, Besides, there are airports at Tiruchirappalli, Coimbatore and Madurai. Coimbatore, Madras, Cochin, Lakshadweep, Pondicherry and Tuticorin are also air-linked by Vayudoot service.

PORTS

Major ports in the state are Madras and Tuticorin while Cuddalore and Nagapattinam are lesser known ports. There is an inland container depot to cater to the exports traffic at Coimbatore linked to Cochin port in Kerala.

FESTIVALS

Pongal is the harvest festival celebrated for four days in mid-January commencing from the last day of the Tamil month *Margazhi*. The sun, the earth

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and the cattle are worshipped by farmers as thanks-giving for a bounteous harvest. *Adiperukku* is an important festival celebrated on the 18th day of Tamil month *Adi* on the banks of rivers welcoming the fresh gush of water brought by the monsoon. It marks the commencement of new farming operations. The river Kaveri considered as a woman and a variety of rice called *Chithra Annam* is cooked and offered to her on this day to fulfil her desire. *Karthigai Deepam* is celebrated all over the state, especially at Tiruvannamalai in the month *Karthigai* when lamps are lit in every house in remembrance of Lord Shiva who took the form of a blazing mountain to pacify Brahma and Vishnu disputing their relative superiority. *Pankuni Uthram* is a temple festival celebrated in March-April in almost all the *Saivite* temples in Tamil Nadu. Temple Car Festival is the highlight on the tenth day celebrations. *Arupathimoovar* is celebrated at Kapaleeswarar temple, Mylapore, Madras. All 63 *Saiva* saints are taken in a procession along with the main deity around the temple. *Chithirai* is a very popular festival of Madurai celebrated for a month during April-May in symbolic rememberance of the celestial marriage of goddess Meenakshi and Lord *Sundareswarar. Float* festival celebrated in January-February at Vandiyur Marriamman temple tank in Madurai on the occasion of full moon, is spectacular in many respects. *Brahmostsavam* is celebrated in Vaishnavite temples for 20 days during December-January. It attracts a large number of devotees at Srirangam, Kancheepuram and Srivilliputhur. *Velankanni* annual festival is celebrated for ten days at Velankanni commencing from seventh September at the Minor Basilica dedicated to 'Our Lady of Health', *Nagoor Kanduri* is celebrated at Nagoor.

Music Festival is celebrated every year at Thiruvaiyaru in January in honour of poet saint Thyagagraja. Musicians from all over India assemble here and take part in the festival. Summer Festival is held in the hill stations, Udagamandalam, Kodaikkanal and Yercaud in May every year. As part of the cultural programmes, flower shows and boat pageants are organised. Dance festival at Mamallapuram is celebrated during January-February. *Natyanjali* is celebrated on Mahasivarathiri (February-March) at Chidambaram. *Mahamagam* festival is celebrated at Kumbakonam once in twelve years.

TOURIST CENTRES

Madras, Mamallapuram, Covelong (beach resorts), Poompuhar, Kancheepuram, Kumbakonam, Dharasuram, Tranquebar, Chidambaram, Triuvannamalai, Srirangam, Madurai, Rameswaram, Tirunelveli, Kanniyakumari, Thanjavur, Velankanni, Nagoor, Narthamalai, Chithannavasal, Moovarkoil, Kazhugumalai (monument centres), Courtallam, Hogenakkal, Papanasam, Suruli (water falls), Ooty (Udhagamandalam),Kodaikanal, Yercaud, Elagiri (hill stations), Guindy (Madras), Mudumalai, Anamalai, Mundanthuri, Kalakad (wild life sactuaries), Vedanthangal and Point Calimere (bird sanctuaries) and Vandalur Zoological Park near Madras are some of the places of tourist interest.

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GOVERNMENT

Governor	:	Dr. M. Channa Reddy
Chief Minister	:	Dr. J.Jayalalitha.
Speaker	:	Sedapatti R. Muthiah
Chief Secretary	:	T.V.Venkataraman
Chief Justice	:	K.A. Samy
Jurisdiction of High Court	:	Tamil Nadu and Pondicherry.

AREA , POPULATION AND HEADQUARTERS OF DISTRICTS

	Districts	Area (sq km)	Population	Headquarters
1.	Chengalpattu— MGR	7,920	46,20,967	Kanchipuram
2.	Coimbatore	10,873	35,31,078	Coimbatore
3.	Dharmapuri	9,643	23,95,606	Dharmapuri
4.	Kanyakumari	1,684	15,91,174	Nagercoil
5.	Madras	128	37,95,028	Madras
6.	Madurai	6,558	34,47,595	Madurai
7.	Dindigul Anna	5,836	17,68,679	Dindigul
8.	Nagapattinam Quaid-E-Milleth	4,600	23,95,000	Nagapattinam
9.	Nilgiris	2,549	7,04,827	Udhagamandalam
10.	North Arcot Ambedkar	12,265	30,00,208	Vellore
11.	Periyar	4,800	23,22,851	Erode
12.	Pudukkottai	4,137	13,22,851	Pudukkottai
13.	Ramanathapuram	4,217	11,35,887	Ramanathapuram
14.	Kamarajar	4,175	15,54,350	Virudhunagar
15.	Pasumpon Muthuramalinga Thevar	4,186	10,74,989	Sivaganga
16.	Salem	8,643	39,14,239	Salem
17.	South Arcot	10,898	48,70,871	Cuddalore
18.	Thiruchirappalli	11,208	41,14,323	Thiruchirappalli
19.	Thanjavur	8,670	45,26,709	Thanjavur
20.	Tirunelveli Kattabomman	6,780	24,93,189	Tirunelveli
21.	Tiruvannamalai Sambuvarayar	6,355	19,97,458	Tiruvennamalai
22.	V O Chidambaranar	4,649	14,55,796	Tuticorin

TRIPURA

Area : 10,491 sq km
Capital: Agartala

Population : 27,44,827
Principal Languages: Bengali, Kakbarak and Manipuri

HISTORY AND GEOGRAPHY

History of Tripura dates back to the *Mahabharata*, the *Puranas* and pillar inscriptions of emperor Ashoka. There are no historical records available of Tripura except *Rajmala* which is the chronicle of the kings of the ruling family of Tripura. According to it, rulers were known by the surname 'Fa' meaning 'father'. There is a reference of rulers of Bengal helping Tripura kings in the 14th century. Kings of Tripura had to face frequent Mughal invasions with varying successes. They defeated Mohammedan sultans of Bengal in several battles. Nineteenth century marked the beginning of the modern era in

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Tripura when king Maharaja Birchandra Manikya Bahadur modelled his administrative set-up on the British India pattern and brought in various reforms. His successors ruled over Tripura till 1947 when it was annexed to Indian Union. After Independence, it became a Part 'C' state and with the re-organisation of states in 1956, it became a Centrally administered territory. In 1972, this territory attained the status of a full-fledged state along with Manipur and Meghalaya. Tripura is strategically situated between the river valleys of Burma and Bangladesh. Encircled almost on three sides by Bangladesh, it is linked with Assam only in the north-east.

IRRIGATION AND POWER

Gumti Irrigation Project, Maharani-in addition to the completion of 4.5 km of canal during 1988-89 another 10.80 km of canal had progressed substantially. Work on Manu Irrigation Project, Nalkat is nearing completion. Survey for canal length of 10 km had been completed. Against the target of 3,000 hectare of land to be brought under the irrigation, the achievement was about 1,480 hectare in 1989-90. The proposed 11 km anti-erosion schemes had been completed and 0.50 km of proposed 8 km embankment constructed protecting 40 hectare of land. Besides, seven other important flood protection works were taken up on emergency basis and progressed substantially.

TRANSPORT

ROADS

Inter-state bus services have been started in Tripura and Meghalaya by TRTC and Agartala- Silchar is being connected now by TRTC buses. Tripura Road Transport Corporation plays an important role for transportation of passengers and goods in different parts of Tripura.

RAILWAYS

Dharmanagar is linked by railway with Assam covering a distance of 33 km, now it is extended upto Kumarghat in North Tripura.

AVIATION

Agartala is the main airport connected with Calcutta and Guwahati.

TOURIST CENTRES

Important tourist centres are Nirmahal, Siphaijala, Dumbor Lake, Kamalasagar, Jumpui Hill, Unakoti, Matabiri, Brahmakanda, Rabindrakavan, Tripurasundari temple, Bhuvaneswari temple, Trishna Wildlife Sanctuary etc.

FESTIVALS

Of the many festivals, worship of fourteen Gods particularly known as *Kharschii Puja* occupies places of pride. Other festivals celebrated are *Ker* and *Garia Puja, Ganga Puja, Durga Puja, Diwali,* and *Paus-Sankranti Mela* at Thirthomukh.

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GOVERNMENT

Governor	:	Romesh Bhandari
Chief Minister	:	Dasarath Deb
Speaker	:	Bimal Sinha
Chief Secretry	:	M. Damodaran
Jurisdiction of High Court	:	Falls under jurisdiction of Guwahati High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS.

	District	Area (sq km)	Population	Headquarters
1.	North Tripura	3,872	6,90,565	Kailashahar
2.	South Tripura	3,581	7,65,176	Udaipur
3.	West Tripura	2,033	12,89,086	Agartala

UTTAR PRADESH

Area : 2,94,411 sq.km — *Population : 1,39,112,287*

Capital : Lucknow — *Principal Languages:* Hindi and Urdu.

HISTORY AND GEOGRAPHY

History of Uttar Pradesh is very ancient and interesting. It is recognised in the later Vedic Age as *Brahmarshi Desa* or *Madhya Desa*. Many great sages of the Vedic times like Bharadwaja, Yagyavalkya, Vasishta, Vishwamitra and Valmiki appear to have flourished in UP. Several sacred books of the Aryans were also composed here. Two great epics of India, *Ramayana* and *Mahabharata* appear to have been inspired by Uttar Pradesh. Ramayana features the royal family of Kosala and Mahabharata centres around the royal family at Hastinapur both in UP.

In the sixth century BC Uttar Pradesh was associated with two new religions, Jainism and Buddhism. Mahavira, founder of Jainism is said to have breathed his last at Doora in UP. It was at Saranath that Buddha preached his first sermon and laid the foundations of his order. In the post Buddhist period, several centres in Uttar Pradesh like Ayodhya, Prayag, Varanasi and Mathura became reputed centres of learning. Sri Sankaracharya, the great Hindu reformer, established one of his *ashramas* at Badrinath in UP. In the medieval period, Uttar Pradesh passed under Muslim rule and led the way to a new synthesis of Hindu and Islamic cultures. Ramanada and his Muslim disciple Kabir, Tulsidas, Birbal and many other intellectuals contributed to the growth of Hindi and Urdu languages.

Uttar Pradesh preserved its intellectual leadership even under the British administration. The British combined Agra and Oudh into one province and called it United Provinces of Agra and Oudh. The name was shortened to the United Provinces in 1935. After Independence, in January 1950, United Provinces was renamed as Uttar Pradesh. Uttar Pradesh is

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bounded by Tibet and Nepal in north, Himachal Pradesh in north west, Haryana in west, Rajasthan in south-west, Madhya Pradesh in south and Bihar in east. Uttar Pradesh can be divided into three distinct regions (i) northem mountains, (ii) southern hills plateau and (iii) Gangetic plain.

AGRICULTURE

Agriculture is the main occupation of almost 78 per cent of the population. Uttar Pradesh is the largest producer of foodgrains, sugarcane and oilseeds. During 1992-93, wheat production was 199.07 lakh mt, rice 96.09 lakh mt, oilseeds 13.65 lakh mt, jute 0.01 lakh mt, pulses 24.81 lakh mt, patato 59.08 lakh mt, Cane 1,066.77 lakh mt, fish 12.14 lakh mt, and apple 2.12 lakh mt. The state is India's 'sugarcane bowl' producing 25.55 lakh mt. There are 1,796 veterinary hospitals for cattle.

INDUSTRY AND MINERALS

By February 1993, medium and large industrial undertakings cumulated to 1,311 with an investment of Rs 9,739.51 crore and small scale industries (SSI) units numbered more than three lakh having an investment of Rs 1,801 crore. After the introduction of liberalised Industrial Policy wherein people are free to choose any location by just filing an Industrial Entrepreneurs Memorandum with the Secretariat of Industrial Approval in the Government of India, 13.46 per cent entrepreneurs have opted for UP. Presently, 262 medium and large industries are under implementation, besides 29 new projects have been taken up in 1992-93.

There are 7,44,850 artisans in the state. Hand knitted woollen carpets of Varanasi and Mirzapur, *chikan* of Lucknow, terracota of Gorakhpur, wood carving of Saharanpur, brass and EPNS wares of Moradabad and hand printing of Farrukhabad have excelled in their craftmanship and vividness of colours and designs. In the total export of woollen carpets, 75 per cent is contributed by UP alone. During 1991-92 about 15 million tonnes of major minerals and 58 million cubic meters of minor minerals were produced in the state which valued at over Rs 554 crore. Important mineral based industries include large cement plants in Senbhadra, mini cement plants in Lucknow, Dehradun and Almora, dead burnt magnesite plants in Almora and Pithoragarh, calcium carbide plant in Dehradun and synthetic emery plant in Banda, silica-sand beneficiation plant in Allahabad and elemental phosphorus plant in Lalitpur. The mineral industry is labour intensive and provides employment to about one lakh persons.

FOREST

Uttar Pradesh Forest Department has geared itself to increase the forest covers of the state from present 17.4 per cent (51,502 km) to 33 per cent as required by National Forest Policy 1988. During 1992-93, the following specific schemes were implemented to improve the quality and productivity of the existing forest and to increase the tree wealth of the state: (i) Social

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Forestry Programme; (ii) Industrial and Pulpwood Plantation; (iii) Fuelwood and Fodder Scheme; (iv) Energy Plantation Scheme; (v) Soil conservation works in civil and Soyam Forests; (vi)Soil Conservation and Afforestation Scheme in Tehri Dam Catchment Area; (vii) Ramganga Project; (viii) Matatila Project; (ix) Integrated Wasteland Project; (x) Poverty Alleviation and Welfare Schemes and (xi) World Food Programme.

IRRIGATION AND POWER

By the end of Seventh Plan irrigation facility in a total area of 104.35 lakh hectare was available through 69.150 km of canals and 26,985 government tube-wells which increased to 73,070 and 28,109 on 1 April 1992. During the year, irrigation potential in an area of about 1.05 lakh hectare was created through large, medium and minor irrigation projects. Major irrigation projects under construction include Lakhwar Vyasi, eastern Ganga canal, modernisation of Upper Ganga canal, Maudaha Dam, Sarda Sahayak, Saryu canal and Urmil dam. An outlay of Rs 362.87 crore for major and medium schemes was earmarked for this purpose during 1992-93.

Uttar Pradesh has some of the oldest power houses to supply electricity throughout the state. The UP State Electricity Board, which generates, transmits and distributes power in whole of the state, was established on 1 April 1959. At that time, the total generating capacity of hydro thermal and diesel power houses was 263.5 MW which has now been raised to 4,643.75 MW. Important power projects implemented since 1947 are hydro electric—Mohammadpur (1950-54), Khatima (1954-56), Pathri (1955-56), Rihand (1961-62), Matatila (1964-66), Dhakrani (1965-66) Dhalipur(1965-66), Obra(1970-72), Chibre (1974-76), Kulhal (1974-76) Ramganga (1975-77), Chilla (1980-81), Khodri (1983-84), Maheri-Bhali (1984-85) and Khara (1992-93); thermal projects—Harduaganj 'A' (1962-65), Harduaganj 'B' (1967-73), Harduaganj 'C' (1976-78), Panki (1967-68), Panki Extension (1976-77), Obra (1967-72), Obra Extension (1973-82), Parichha (1983-85), Anpara 'A' (1985-88), and Tanda (1987-90). All thermal projects except Harduaganj 'A' are in operation. As on 31 January 1993, 83,781 villages and 51,837 *Harijan Bastis* have been electrified. Besides 6,60,216 private tube-wells and 31,226 state tube wells have been energised.

TRANSPORT

ROADS

Roads in Uttar Pradesh was categorised as under PWD upto 31 March 1992—black top 60,065 Km, Water Bound Macadam 15,329 Km, Brick Soling 14,555 Km, Eastern Roads 9,765 Km, roads maintained by other departments (a) Black Top 7,028 Km, (b) Water Bound Macadam 3,072 Km, (c) Brick Soling 19,168 Km, (d) Earthen Roads 43,319 Km. Number of on road vehicles in Uttar Pradesh was 2,39,159 upto March 1993.

RAILWAYS

Important railway junctions are Agra, Kanpur, Allahabad, Mughalsarai, Tundla, Gorakhpur, Gonda and Lucknow.

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FESTIVALS

The biggest congregation perhaps of the world, *Kumbh Mela* is held at Allahabad every twelfth year. Apart from Allahabad it is also held at Haridwar every sixth year. In Allahabad, there is a *Magh Mela* every winter in January when people come and settle there for a month to have a dip in Sangam every morning. Among other fairs is *Jhoola* fair of Mathura, Vrindavan and Ayodhya that last a fortnight when idols are placed in gold and silver *Jhoolas* or cradles. A dip in the Ganga on *Kartik Poornmasi* is supposed to be the holiest and there are big congregations at Garhmukteswar, Soran Rajghat, Kakora, Bithur, Kanpur, Allahabad, Varanasi, Ayodhya and Haridwar. A very famous cattle fair is held at Bateswar in Agra district. Deva in Bara Banki district has become famous because of Muslim saint Warish Shah. Besides, important festivals of Hindus, Muslims etc, are widely celebrated in the state.

TOURIST CENTRES

Uttar Pradesh has varied attractions for all kinds of tourists. Besides ancient places of pilgrimage like Varanasi, Vindhyachal, Ayodhya, Chitrakoot, Prayag, Bageshwar, Jageshwar, Pauri, Naimisharanya, Mathura, Vrindavan, Haridwar, Rishikesh, Badrinath, Kedarnath, Gangotri, Yamnotri, Nanakmatta, Hemkund Sahib, Deva Sharief Pearanklar, Dargah of Shekh Saleem Chishti in Fatehpur, Sarnath, Sharvasti, Kushinagar, Sankisa, Kampil, Piprahva and Kaushambi, places like Agra, Ayodhya, Sarnath, Varanasi, Lucknow, Mathura, Prayag, Jhansi, Gorakhpur, Jaunpur, Kanauj, Mahoba, Devgarh, Bithur and Vindhyachal have rich treasures of Hindu and Islamic architecture and culture. Uttar Pradesh has a treasure of magnificent scenic beauty spots like Sangam in Allahabad, Hindon (Ghaziabad) and Tanda Waterfall in Faizabad, Okhla, Dehradun, Musoorie, Chakrata, Nainital, Ranikhet, Almora, Kausani, Pindari, Glacier, Corbett National Park and Dudhwa Sanctuary.

GOVERNMENT

Governor	:	Motilal Vohra
Chief Minister	:	Mulayam Singh Yadav
Speaker	:	Dhani Ram Verma
Chief Secretary	:	T.S.R. Subramanium
Chief Justice	:	S.C. Mathur
Jurisdiction of High Court	:	Uttar Pradesh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area sq km	Population	Headquarters
1. Agra	4,027	27,51,021	Agra
2. Aligarh	5,019	32,95,982	Aligarh
3. Allahabad	7,261	49,21,313	Allahabad
4. Almora	5,385	8,36,613	Almora
5. Azamgarh	4,234	31,53,885	Azamgarh
6. Bahraich	6,877	27,63,750	Bahraich
7. Ballia	2,981	22,62,273	Ballia

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	District	Area sq km	Population	Headquarters
8.	Banda	7,624	18,62,139	Banda
9.	Bara Banki	4,402	24,23,136	Barabanki
10.	Baraelli	4,120	28,34,616	Bareilly
11.	Basti	3,733	27,38,522	Basti
12.	Bijnor	4,561	24,54,521	Bijnor
13.	Budaun	5,168	24,48,338	Budaun
14.	Bulandshar	4,352	28,44,859	Bulandshar
15.	Chameli	9,126	4,54,871	Chameli
16.	Dehra Doon	3,088	10,25,679	Dehra Doon
17.	Deoria	5,445	44,40,024	Deoria
18.	Etah	4,446	22,44,998	Etah
19.	Etawah	4,326	21,24,655	Etawah
20.	Faizabad	4,511	29,78,484	Faizabad
21.	Farrukhabad	4,274	24,40,266	Fatehgarh
22.	Fatehpur	4,152	18,99,241	Fatehpur
23.	Garhwal	5,438	6,82,535	Pauri
24.	Ghaziabad	2,590	27,03,933	Ghaziabad
25.	Ghazipur	3,377	24,16,617	Ghazipur
26.	Gonda	7,352	35,73,075	Gonda
27.	Gorakhpur	6,272	30,66,002	Gorakhpur
28.	Hamirpur	7,166	14,66,491	Hamirpur
29.	Hardoi	5,986	27,47,082	Hardoi
30.	Jalaun	4,565	12,19,377	Orai
31.	Jaunpur	4,038	32,14,636	Jaunpur
32.	Jhansi	5,024	14,29,698	Jhansi
33.	Kanpur(Dehat)	5,111	21,38,317	Kanpur (rural)
34.	Kanpur(Nagar)	1,065	24,18,487	Kanpur
35.	Kheri	7,680	24,19,234	Kheri
36.	Lalitpur	5,039	7,52,043	Lalitpur
37.	Lucknow	2,528	27,62,801	Lucknow
38.	Mainpur	2,760	13,16,746	Mainpur
39.	Mathura	3,811	19,31,186	Mathura
40.	Meerut	3,911	34,47,912	Meerut
41.	Mirzapur	4,522	16,57,139	Mirzapur
42.	Moradabad	5,967	41,21,035	Moradabad
43.	Muzaffarnagar	4,008	28,42,543	Muzaffarnagar
44.	Nainital	6,794	15,40,174	Nainital
45.	Pilibhit	3,499	12,83,103	Pilibhit
46.	Pithogarh	8,856	5,66,408	Pithorgarh
47.	Pratapgarh	3,717	22,10,700	Pratapgarh
48.	Rae Bareli	4,609	23,22,810	Rae Bareli
49.	Ram Pur	2,367	15,02,141	Rampur
50.	Saharanpur	3,689	23,09,029	Saharanpur
51.	Shahjahanpur	4,575	19,87,395	Shahjahanpur
52.	Sitapur	5,743	28,57,009	Sitapur
53.	Sultanpur	4,436	25,58,970	Sultanpur
54.	Tehri Garhwal	4,421	5,80,153	Narendranagar
55.	Unnao	4,558	22,00,397	Unnao
56.	Uttarkashi	8,016	2,39,709	Uttarkashi
57.	Varanasi	5,092	48,60,582	Varanasi
58.	Haridwar	2,360	11,24,488	Haridwar
59.	Maiu	1,713	14,45,782	Maiu
60.	Sidharthnagar	3,495	17,07,885	Navgarh
61.	Firozabad	2,361	15,33,054	Firozabad
62.	Maharajganj	N.R.	16,76,378	Maharajganj
63.	Sonbhadra	6,788	10,75,041	Raborts Ganj

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WEST BENGAL

Area: 88,752 sq km	*Population:* 67,982,732
Capital: Calcutta	*Principal Language:* Bengali

HISTORY AND GEOGRAPHY

Bengal finds a coveted place even in pre-historic times. At the time of Alexander's invasion a powerful kingdom called Gangaridai ruled over Bengal. Ascendancy of the Guptas and the Mauryas had somewhat little effect on Bengal. Later Sasanka became King of Bengal and is said to have played important role in north-eastern India in the early half of the seventh century. He was succeeded by Gopala who founded the Pala dynasty which ruled for centuries and had created a huge empire. The Palas were followed by the Sena dynasty which was ended by Muslim rulers from Delhi. Bengal was ruled by various Muslim rulers and governors till the Mughal period in sixteenth century.

After the Mughals, history of modern Bengal begins with the advent of European and English trading companies. Battle of Plassey in 1757 changed the course of history when the English first gained a strong foothold in Bengal and India. In 1905 it was partitioned to achieve some political returns but people's growing movement under the auspices of Congress led to the reunion in 1911. This triggered off hectic movement for freedom which culminated with Independence in 1947 and partition.

After 1947, the merger of native settlement began which ended with its final reorganisation in 1956(as per Recommendations of the States Reorganisation Act, 1956) when some Bengali speaking areas of a neighbouring state were transferred to West Bengal. The land frontiers of the state touch Bangladesh in the east and is separated from Nepal in the west, Bhutan lies in the north-east, while Sikkim is on the north. On the west and south are the states of Bihar and Orissa respectively, Bay of Bengal washing its southern frontiers.

AGRICULTURE

Agriculture plays a pivotal role in the state's income and nearly three out of four persons in the state are directly or indirectly involved in agriculture. About 45 per cent of grass cropped area of the state has been brought under irrigation potential. With an area of 5,719.26 thousands hectare rice production went up to 11,954.19 m tonnes in 1991-92. The state occupies a leading position among the principal rice growing states of India by contributing 16.2 per cent of the total production of rice. The total foodgrain production has attained an all-time record production of 128 lakh tonnes in 1991-92. The state accounted for 63.4 per cent of the country's jute, including mesta in 1991-92 and 21.8 per cent of tea production in 1991 (calendar year). Important crops, among others include potatoes, oilseeds, betelvine, tobacco, wheat, barley and maize.

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INDUSTRY AND MINERALS

West Bengal was one of the major industrial states in the country with 8,900 registered working factories in 1990. The number of small scale industrial units registered with the Directorate of Cottage and Small Scale Industries during 1991-92 stood at 27,434. Besides alloy steel plant at Durgapur, there are two more steel plants one at Durgapur, and other at Burdwan and twenty three mini steel plants. Major industries, among others, include engineering, automobiles, chemicals, pharmaceuticals, alluminium, ceramics, leather, footwear, bonemeal, bicycle, jute, cotton, textiles, tea, paper, glass, timber-processing, Central public sector undertakings including coal, locomotive cable, fertilizer, shipbuilding and ordinance are located within the state. The State Government in its turn has set up public sector undertakings like tea, fruit and vegetable processing, sugar, dairy and poultry, chemicals and phyto-chemicals, agro-textile, sugarbeat, fruit and vegetable processing, silicate and glass, plywood, electrochemical, electro medical and allied industrial (including mineral) development. Coal and china clay are two important minerals found extensively in the state.

IRRIGATION AND POWER

Important multipurpose irrigation schemes implemented since 1947, include, among others, barrage and irrigation system of the Damodar Valley, Mayurakshi irrigation and Kangsabati projects. The Subarnarakha Barrage project in Midnapore district has started. Irrigation schemes completed include the Teesta-Mahananda link canal (in Jalpaiguri district), Hinlow irrigation scheme (in Birbhum district), Sohajare scheme (in Bankura district), Terageria and Turga irrigation scheme (in Purulia district). Power supply in West Bengal is currently done by the West Bengal Power Development Corporation Limited, West Bengal State Electricity Board, Calcutta Electricity Supply Corporation and Durgapur Project Limited.

In 1991-92 generation capacity (excluding, DVC, NTPC, and DPS.) stood at 10,465 MU. Besides WBSEB, has got gas turbine of 100 MW capacity, hydel units of 14 MW capacity and diesel units of 15.5 MW capacity. With the commissioning of a 67.5 MW unit under CESC and 210 MW unit under WBPDCL, since September 1990 it has been possible to make a positive break in the zero strength of power capacity in the state from 1986. During the calendar year 1992 generation of energy (excluding DVC, NTPC etc.) stood at 10,947 MW.

Total number of *mouzas* electrified increased from 27,584 (1990-91) to 29,020 (1991-92) covering 73.69 per cent of total *mouzas*. The number of pump-sets energized increased to 92,394 (1991-92) from 89,176 (1990-91). Under the Kutirjyoti and Lokdeep scheme as on 31 October 1992 as much as 48,939 households were electrified.

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TRANSPORT

ROADS

The length of roads, as on 31 March 1988, was 57,619 km including 1,630 km of national highways.

RAILWAYS

The total length railway route (inclusive of broad gauge, metre gauge and narrow guage) in the state were 3,825.73 km (1991-92). Howrah, Asansol, Kharagpur and New Jalpaiguri are, among others, the main junctions.

AVIATION

At Dum Dum near Calcutta an international airport is located and other airfields in the state are Balurghat, Coochbehar, Malda and Bagdogra.

PORTS

Calcutta is the most important port, followed by Haldia.

FESTIVALS

Durga Puja is the most important festival alongwith *Kalipuja* or *Diwali* besides *Vasant Panchami, Lakshmi Puja, Holi, Sivaratri, Janmasthami, Id-ud-Zuha, Id-ul-Fiter,* etc.

TOURIST CENTRES

Important tourist centres are, among others Calcutta, Digha (Midnapore), Bakehali Sea Resort, Sagar Island and Sundarbans (South 24-Parganas), Bandel, Tarakeswar, Kamarpukuz, (Hooghly) and Gadiara (Howrah), Shantiniketan and Bakreshwar (Birbhum), Durgapur (Burdwan), Mukutnanipur and Vishnupur (Bankura), Ayodhya Hills (Purulia), Murshidabad, Gour and Pandua (Malda), Darjeeling, Mirik, Kalimpong, Sandakfu and Falut and Kursoong (Darjeeling), Jaldapara and Dooars (Jalpaiguri).

GOVERNMENT

Governor	:	P.V. Raghunatha Reddy.
Chief Minister	:	Jyoti Basu.
Speaker	:	Hasim Abdul Halim.
Chief Justice	:	Justice Anandamey Bhattacharya.
Chief Secretary	:	N.Krishnamurthi
Jurisdiction of High Court	:	West Bengal and Andaman and Nicobar Islands.

AREA , POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (Sq Kms)	Population Povisional (Census of India '91).	Headquarters
1. Bankura	6,882	27,99,455	Bankura
2. Bardhaman	7,024	59,79,050	Bardhaman
3. Birbhum	4,545	25,56,105	Suri

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	District	Area (sq kms)	Population (Provisional of 1991 Census)	Headquarters
4.	Calcutta[1]	187.33	43,88,262	Calcutta
5.	Darjeeling	3,149	13,35,618	Darjeeling
6.	Howrah	1,467	37,18,911	Howrah
7.	Hooghly	3,149	43,52,660	Chinsurah
8.	Jalpaiguri	6,227	27,89,827	Jalpaiguri
9.	Coochbehar	3,387	21,58,169	Coochbehar
10.	Malda	3,733	26,33,942	English Bazar
11.	Medinipur	14,081	83,49,890	Medinipur
12.	Murshidabad	5,324	47,34,278	Berhampore
13.	Nadia	3,927	38,48,247	Krishnanagar
14.	North 24 Parganas[2]	14,052.67	7,28,02,261	Alipore
15.	South 24 Parganas			Barasat
16.	Purilia	6,259	22,17,423	Purulia
17.	West Dinajpur[3]	5,258	31,32,374	Balurghat

1. Includes three municipalities (Garden Reach with an area of 12.05 sq km), Suburban with 30.38 sq km. and Jadavpur with 40 sq km.
2. Shows combined area.
3. The district of West Dinajpur has been divided into two: Uttar Dinajpur and Dakshin Dinajpur w.e.f. 1.4.92 vide The Calcutta Gazette (Extraordinary) dated 28.2.92.

ANDAMAN AND NICOBAR ISLANDS

Area: 8,249 sq km.
Capital: Port Blair
Population: 2,80,661
Principal Languages: Hindi, Nicobares, Malayalam, Bengali, Tamil and Telugu

HISTORY AND GEOGRAPHY

Original inhabitants of the Andaman and Nicobar Islands lived in forest by hunting and fishing. There are four Negrito tribes, *viz.* the Great Andamanese, the Onge, the Jarawa and the Sentinelese in Andaman group of islands and the Nicobars and Shompen, two Mongoloid tribes of the Nicobar group of Island. Among them the Jarawa and the Sentinelese are the tribes who heven't learnt the concept of covering themselves. Japanese forces occupied the Andaman and Nicobar Islands in 1942. The British reoccupied them in 1945. From 1857 to 1942 the islands were used by the British as penal settlement for the life and long-term convicts, but penal settlement was abolished on re-occupation in 1945.

The Andamans Islands lie in the Bay of Bengal, 193 km from Cape Negaris in Burma, 1,255 km from Calcutta and 1,190 km from Madras . Five islands grouped together are called the Great Andamans and to south is the islands of Little Andaman. There are some 204 islets, the two principal groups being Ritchie's Archipelago and Labyrinth Islands. The Nicobar Islands are situated to the south of the Andamans, 121 km from Little Andaman. There are 19 islands, seven inhabited chief islands are

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Great Nicobar, Nancowrie and Car Nicobar, Chowara, Terassa, Trinket, and Katchal.

AGRICULTURE

Paddy is the main food crop which is mostly cultivated in Andaman group of islands whereas coconut and arecanut are the main cash crops of Nicobar group of islands. Field crops namely pulses, oilseeds and vegetables are grown and paddy follows during *Rabi* season. Different kinds of fruits such as mango, *sapota*, orange, banana, papaya, pineapple and root crops are grown on hilly land available with farmers. Spices *viz.* pepper, clove, nutmeg and cinnamon are grown under multi-tier cropping system. Rubber Red oil, palm and cashew are grown in limited scale in these islands.

Forests cover 7,171 sq km of the total area of the islands. All types of forests are found in the islands such as giant evergreen, hill-top evergreens moist decidious, litterol and sub-mounting swamp forest. A large variety of timber is found in the Andaman group of islands. The most valuable timber is *padauk* and *gurjen*. These species are not found in Nicobar.

Water around the islands is rich in fish and unlike mainland there is no traditional fishing community in the islands. An area of 1,073 hectare has been identified as brakish water for acqua culture.

INDUSTRY

There are 1,009 registered small scale village and handicraft units besides a few medium sized industrial units. Small scale and handicraft units are engaged in shell crafts, furniture making, bakery products, rice milling, wheat grinding, oilseeds crushing etc. The medium scale units located at Chatham in Port Blair, Bambooflat in South Andaman, Bakultala and Long Island in Middle Andaman are engaged in products which comprise sawn timber, match splints, veneers, commercial plywood, industrial oxygen etc. The Andaman and Nicobar Integrated Development Corporation established in 1988 have started its activities in the field of civil supplies, tourism, fisheries and industries. Twelve industrial training centres impart training to local artisans and tribals in trades like cane and bamboo crafts, shell crafts, tailoring, general engineering, carpentry and coir processing. Most of these centres are training-cum-production centres.

TRANSPORT

The islands are accessible both by air and sea. Indian Airlines is operating three flights a week between Calcutta and Port Blair and from Madras to Port Blair. The passenger ships ply between Port Blair and Calcutta/Madras/ Visakhapatnam. The Directorate of Shipping Services have maintained regular inter-island, fore-shore and harbour ferry services to cater to the need of inter-island commuters.

The state transport services established as a commercial undertaking extended its service to 11 major islands of this Union Territory right from Diglipur in the north to Campbell Bay in the south. This department

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introduced Andaman Trunk Road Service to connect the capital with Mayabunder, the sub-divisional headquarter of north and middle Andaman with transhipment service by providing two ferry boats, covering a distance of 250 km and presently operates express buses in this route.

TOURIST CENTRES

Important tourist centres are Cellular Jail, National Memorial, Anthropological Museum, Chattam Saw Mill, Marine Museum, Dilthaman Tank (Water Sports), Carbyn's Cove, Samudrika Naval Fisheries Museum, Carbyn's Cove Beach, Chidia Tappu Burma Nalla, Wandoor beach, Viper Island, Mount Harriat, Shippighat Agriculture Farm, Shippighat Water Sports Complex, Ross Island, Cinque Island, Jolly Buoy, Neil Havelock, Mayabunder, Rangat and Diglipur.

GOVERNMENT

Lt. Governor: : Vakkom Purushothaman
Chief Secretary: : Sanat Kaul
Jurisdiction of High Court : Falls under the jurisdiction of Calcutta High Court.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area sq. km.	Population	Headquarter
1. Andamans	6,408	2,41,453	Port Blair
2. Nicobars	1,841	39,208	Car Nicobar

CHANDIGARH

Area : 114 sq km
Capital : Chandigarh
Population : 6,42,015
Principal languages: Hindi, Punjabi

HISTORY AND GEOGRAPHY

Chandigarh and the area surrounding it were constituted as a Union Territory on 1 November 1966. It serves as the joint capital of both Punjab and Haryana states. It is bounded on north and west by Punjab and east and south by Haryana.

AGRICULTURE

At present, cultivable land is about 2,375 hectare in the Union Territory of Chandigarh. Irrigated area is about 2,350 hectare. Wheat, maize and fodder are major crops.

INDUSTRY

There are 15 large and medium scale units in Chandigarh of which two are public undertakings. More than 3,000 units are registered under small scale

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industrial sector, which provides employment to nearly 24,000 persons. Large and medium scale units produce hosiery and knitting machine needles, wooltops, electric meters, cycle free wheels and rims, antibiotics, soft drinks, cardboards, etc. Small Scale units are engaged in the production of steel fabrication, door fitting, spun pipes, sanitary fittings, electronic components and equipment, cutlary machine screws, bifurcated rivets, hardware, electrical appliances including washing machines, cotton ginning machine parts, utensils, radios and transistors, auto cables and domestic cables, wire drawing, wire products, soap and chemicals, cement pipes, and tiles, *dal* and oil mills, electrical control switches and accessories, tractor parts, machinery parts, *ayurvedic* drugs, trucks and three wheeler body makers, furniture, security defence system, bio-medical equipment, tyre retreading, drawing office equipment etc.

POWER

Chandigarh gets power from neighbouring states and central generation projects to meet its average requirement. It has 3.5 per cent share of total power generation of Bhakra complex. Further it has been allocated 31 mw share out of thermal, nuclear and gas based central generation project. The shortfall is being met through adhoc allocation from BBMB besides special assistance of about 2 lu per day jointly from Punjab and Haryana states. All the 22 villages around the city stand electrified and have been extended the facility of public lighting.

TRANSPORT

Length of national highways is 33.60 km. Chandigarh is connected by train and air as well.

TOURIST CENTRES

Important centres are Zakir Rose Garden, Smriti Upavana, Shanti Kunj, Sukhna Lake, Museum and Art Gallery, Terraced Garden, National Gallery of Portraits, Bougainvilla Garden, Punjab University Campus, International Dolls Museum, Topiary Park, Deer Park and Log Hut (Khudda Alisher) and Leisure valley.

GOVERNMENT

Administrator	: Surendar Nath
Adviser to the Administrator	: Ramesh Chandra
Jurisdiction of High Court	: Falls under jurisdiction of Punjab and Haryana High Court

DADRA AND NAGAR HAVELI

Area : 491 sq km.	*Population*: 1,38,477
Capital : Silvassa.	*Principal Languages* : Gujarati, Hindi.

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HISTORY AND GEOGRAPHY

There were prolonged skirmishes between the Portuguese and the Marathas on the sea and later on 17 December 1779, Maratha Government assigned the aggregated revenue of Rs 12,000 in few villages of this territory to the Portuguese on compensation and ensured friendship. The Portuguese ruled this territory until its liberation by people themselves on 2 August 1954. After the liberation the administration was carried on for sometime by an Administrator appointed by the people themselves. The territory was merged with the Indian Union on 11 August 1961. Since then this territory is being administered by the Government of India as a union territory through the Administrator. Since liberation of the territory from the Portuguese yoke a *Varishtha Panchayat* was working as an advisory body of the administration. But the same was dissolved on 2 August 1989 and announced a Pradesh Council for Dadra and Nagar Haveli.

Dadra and Nagar Haveli with an area of 491 sq km is surrounded by Gujarat and Maharashtra. The territory consists of two pockets, namely; Dadra and Nagar Haveli. There were 72 villages of which one village Kothar has been completely submerged and five others are partly submerged due to construction of Damanganga Irrigation Project which is a joint venture of Dadra and Nagar Haveli, Daman and Diu and Gujarat. The nearest railway station is at Vapi which is 18 km from Silvassa.

AGRICULTURE

Dadra and Nagar Haveli is a predominantly rural area having about 79 per cent population of tribals. Total geographical area is 491 sq km of which about 24,020 hectare is under cultivation. Major crop is paddy *(kharif)*. *Nagali* and other hill-millets are the second important crops of the area. Sugarcane is coming up slowly.

Mango, chiku, and banana etc. are also poroduced. Forests cover 40 per cent of the total geographical area. Tribals who form 79 per cent of total population lean heavily on forests. They have been given exclusive right for collection of minor forest produce free of cost.

INDUSTRY

Prior to 1965-66 there was no industrial unit existing in the union territory except a few craftsmen who used to work traditionally for manufacture of pots, leather items, *viz.* chappals, shoes, and some other items of bamboo. Industrial development of the Union Territory was started on low-key during 1967-68 with the establishment of industrial estate under the cooperative sector by Danudyog Sahakari Sangh Limited. Thereafter, three government industrial estates have been developed at Silvassa, Masat and Khadoli. By January 1993, there were 465 industries which include cottage, village and small scale industries and 122 medium scale industries in textiles, engineering, plastics, electronics, chemicals, pharmaceuticals etc. These industries employ more than 9,700 persons and produce goods worth over Rs 850 crore. These industries

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are given incentives like exemption from sales tax for 15 years, power subsidy and concessional finance by the financial institutions and banks. Being a backward area, no octroi duty, etc. is charged.

IRRIGATION AND POWER

Prior to liberation of the territory, there was no irrigation facility and cultivators had to fully depend upon rainfall. Later adequate steps were taken and 50 lift irrigation schemes were completed at various places in the territory. A multiple irrigation project Damanganga is also in the final stage. On commissioning of command area development works, more area will be brought under multiple cropping. Power is purchased from Gujarat State Electricity Board. The territory is fully electrified.

TRANSPORT

The union territory does not have its own road transport system. It avails of Gujarat and Maharashtra state transport systems. Total road length is about 342 km, of which 335 km, is surfaced. Sixty-seven villages are connected with all-weather roads. Railway route from Bombay to Ahmadabad links Vapi also. Bombay is the nearest airport.

FESTIVALS

Normally all festivals of Hindus, Muslims and Christians are celebrated in the territory. However, tribals celebration differs. *Varli* and *Kokna* tribals celebrate *Diwali* in the name of *Barash*. *Akha Trij* is celebrated by Kokna tribes where ladies are the main participants. *Divaso* is celebrated by Dhodia and Varli tribes. *Rakhsa Bandhan* is celebrated by Dhodia. Other festivals are *Bhawada* amongst Varli, *Koli* tribes; *Khali Puja* by all tribes after harvesting of crops and *Gram Devi* before harvesting of crops.

GOVERNMENT

Administrator	:	K.S. Baidwan.
Development Commissioner	:	Sindhushree Khullar (Smt)
Jurisdiction of High Court	:	Falls under the jurisdiction of the Bombay High Court.

DAMAN AND DIU

Area: 112 sq km	*Population:* 1,01586
Capital: Daman.	*Principal Language*: Gujarati.

HISTORY AND GEOGRAPHY

Daman and Diu alongwith Goa was a colony held by the Portuguese even after Independence. In 1961, it was made an integral part of India. It was part of the erstwhile Union Territory of Goa, Daman and Diu. After confer-

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ring statehood on Goa on 30 May 1987, Daman and Diu was made a separate Union Territory. Daman lies about 193 km from Bombay. It is bounded on north by the Kolak river, on east by Gujarat, on south by Kali river and on west by the Gulf of Cambay. The neighbouring district of Daman is Valsad of Gujarat. Diu is an island connected by two bridges, one near Tad village and the other near Ghoghla village. The neighbouring district of Diu is Junagadh of Gujarat.

AGRICULTURE AND IRRIGATION

For increasing agricultural production, area under double cropping is proposed to be increased by raising irrigation schemes as well as tapping surface water through minor irrigation potential. It is to be done by bringing more area under rainfed cropping through National Watershed Development Project (NWDP) for rainfed areas. Important field and garden crops are paddy, *ragi, bajra, jowar,* groundnut, pulses and beans, wheat, banana, sapota, mango, coconut and sugarcane. There are no major forests in the territory.

INDUSTRY AND POWER

The total number of industrial units registered as small scale industries in Daman and Diu are 535. An industrial area has been developed by Goa, Daman and Diu Industrial Development Corporation at Somnath. The other industrial areas are Dabhel, Bhimpore and Kadaiya. All villages have been electrified. One sub-station of 2x5 mva 66/11 kva in Diu was commissioned in 1989-90. In view of additional demands on account of growth in industries and normal development work a 1 x 10 kva 66/11kva units was commissioned at Dalwada in Daman. Another 1x10 mva 66/11 kva unit is under construction.

TRANSPORT

ROADS

Regular buses of the state transport of Gujarat and private taxis operate on Dabhel-Daman-Dabhel route. Long distance buses are available from Vapi and Diu/Ghoghla. Luxury buses are also operating daily on Bombay-Diu-Bombay route. The total length of roads in Daman and Diu are 183 km and 60 km (surface) respectively.

RAILWAYS

There is no railway link with Daman and Diu. The nearest railway station from Daman is Vapi on western railway on Bombay-Delhi route. The nearest railway station from Diu is Delvada on metreguage.

AVIATION

There are airports both in Daman and Diu. Vayudoot services from Bombay-Daman-Surat-Bhavnagar was in operation till 1991 which at present is disconnected. Diu is also likely to be connected by air.

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TOURIST CENTRES

Important tourist places in Daman are Devka Beach, Jampore Beach, irrigation pond-lake in Kachigam, Nani Daman jetty garden and Hilsa Summer house near Hilsa Fish Acquarium. Jallender Beach, Nagoa Beach and Children's park at Ghogla, are some of the tourist centres in Diu.

GOVERNMENT

Until March 1992 the Government of Goa was the Administrator of the Union Territory administration. Now a separate Administrator has been appointed common for both union territories of Daman and Diu and Dadra and Nagar Haveli. He is assisted by the Chief Secretary and the Finance Secretary. After formation of Daman and Diu as a separate union territory, a Pradesh Council was constituted with the Administrator as the Chairman and ex-MLA's, collectors, presidents of Municipal Council and *sarpanches* of village *Panchayats* as members.

GOVERNMENT

Governor (Administrator) : K.S. Baidwan
Finance Secretary : Narayan Diwakar.
Collector and District Magistrate : Satbir Silas

Presently there is a common High Court for Maharashtra and Goa and union territories of Dadra and Nagar Haveli and Daman and Diu.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq km)	Population (1991 census)	Headquarters
1. Daman	72	62,101	Daman
2. Diu	40	39,485	Diu

DELHI

Area :1483 sq km
Capital Delhi
Population 94,20,644
Principal Languages: Hindi, Punjabi and Urdu

HISTORY AND GEOGRAPHY

Dehli finds prominent reference in pre-historic times, right from the epic *Mahabharat*. Later, Dehli went on passing from one kingdom to another beginning with the Mauryas, Guptas, Palas of Central India, and it was the Afghan and the Muslim invaders for about four centuries and finally, to the Mughals in the 16th century. In the later half of the 18th century and early 19th century, the British rule engulfed Delhi and in 1911, it was the centre of all activities. After 1947, it became the capital of India and was made a union territory in 1956. Lying in the northern part of the country, Delhi is surrounded by Haryana on all sides except east where Uttar Pradesh touches

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it. The Union Territory of Delhi has been renamed as National Capital Territory of Delhi with effect from 1 February 1992.

AGRICULTURE

The cultivated area is diminishing fast due to urbanisation of rural areas and ever increasing demand of land for housing purposes. As a result of urbanisation, the net area sown which was 81,000 hectare in 1971, has decreased to 48,350 hectare in 1991. Similarly, the total cropped area which was 1,17,000 hectare in 1971, has decreased to 76,230 hectare in 1991. Wheat, *bajra, jowar* and maize are major food crops. However, emphasis has now shifted from food crops to vegetables and fruit crops, dairy, poultry farming etc. as these are more remunerative than food crops in the territory.

INDUSTRY

Delhi is not only the largest commercial centre in northern India but also the largest centre of small industries. Since 1947, a large number of industrial concerns have been established. These are manufacturing a wide variety of items like television, taperecorders, light engineering machines, and automobile parts, razor blades, sports goods, bicycles and parts, plastic and PVC goods, including footwear, textiles, fertilizers, medicines, hosiery, leather goods, soft drinks etc. There are also units for metal forging, casting, galvanising and electroplating, printing and warehousing. Under the new industrial policy, only the small cottage and household industrial units, which are non-pollutant and have least demand on power, water and space are being allowed to be set up. The small scale industrial registered units functioning in Delhi are 22,901 as on 31 March 1993 with an investment of Rs 915 crore. These industrial units are providing employment to about 2,78,000 persons and manufacturing goods worth Rs 5,773 crore.

IRRIGATION AND POWER

Irrigation facilities are being provided through canals, tube-wells and effluent from sewage treatment plants at Keshavpur, Okhla and Coronation Piller. More than 75 per cent of cropped area is covered under assured irrigation. Special attention is paid to provide irrigation facilities to the scheduled castes and marginal farmers through 273 state tube-wells.

The power demand of Delhi which was 1,065 mw in 1977-78, has reached 1,660 mw in March 1993. Power generation aspect is being taken care of by power stations of the Delhi Electric Supply Undertaking at the Indraprastha Estate (277.5 mw) and Rajghat (135 mw) and six gas turbines of 30 kw each installed at IP Estate. Remaining requirement is being met from Badarpur, Barasuil and the Northern Grid.

TRANSPORT

Delhi is well connected by roads, rail and air with all sides in India. It has three airports i.e. Indira Gandhi International Airport for the international flights, Palam Airport for national air services and Safdarjung Airport for training purposes.

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The Okhla flyover across Mathura Road is at the stage of completion and is to be opened shortly. To ease public transport system, about 2,500 new buses have started operating on city routes. There are a number of flyovers to ease public transport system constituting DTC, Green Lines, White Lines, Red Lines and Blue Lines bus services. To further ease the transport problem a Metro Rail for Delhi is under consideration.

FESTIVALS

Being a cosmopolitan city, all major festivals of India are celebrated here. Moreover, some tourism festivals have become regular annual events of Delhi. Delhi Tourism and Transportation Development Croporation organises the following festivals: (a) International Kite Flying Festival; (b) Garden Tourism Festival and (c) Mango Festival.

TOURIST CENTRES

Important tourist centres are: Lal Qila, Jama Masjid, Qutub Minar, Jantar Mantar, India Gate, Birla Mandir, Humayun Tomb, Lotus Temple etc.

GOVERNMENT

Lt. Governor	:	P K. Dave
Chief Minister	:	Madan Lal Khurana
Speaker	:	Charti Lal Goel
Chief Secretary	:	R.K Takkar
Chief Justice of Delhi High Court	:	Justice Gopal Chand Mittal
Jurisdiction of Delhi High Court	:	Delhi

LAKSHADWEEP

Area: 32 sq km	*Population*: 51,681
Capital: Kavaratti	*Principal Language*: Malayalam

HISTORY AND GEOGRAPHY

Not much is known of the early history of these islands. Islands supposed to have been inhabited first are Amini, Kalpeni, Andrott, Kavaratti and Agatti. It was earlier believed that the islanders were originally Hindus and converted to Islam under the influence of Arab traders sometime in the 14th century. But archaeological evidence recently unearthed indicates that there were Buddhist settlements around sixth or seventh centuries and the earliest Muslim converts or settlers predate the year 139 AH of the Hijra year (eight century) of which date gravestones have recently been discovered in Agatti. This would tend to bear out the local tradition that Islam was brought to the island by Arab saint, Ubaidullah in 41 AH.

Probably independent till the 16th century, the islanders were driven to seek the assistance of Raja of Chirakkal to help rid them of the Portuguese

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attempt to establish domination. This enabled him to establish his authority and, later, the islands were transferred in *Jagir* to Ali Raja, head of Moplah community in Cannanore, who later became an independent ruler himself. The Arakkal rule was not popular, and in 1787, Tipu Sultan acceded to the petitions of northern islanders to annex these islands. On the fall of Tipu Sultan, the islands were passed to East India Company but continued to be ruled *de facto* by the rulers of Cannanore till their ultimate annexation by the British in the early 20th century. In 1956, the islands were constituted into a single territory, and since then, have been directly administered by the Union Government through an administrator. The Laccadives, Minicoy and Amindivi group of Islands were renamed as Lakshadweep in 1973. Lakshadweep, a group of coral islands consists of 12 atolls, three reefs and submerged sand banks. Of the 36 islands, only ten are inhabited. These lie scattered in the Arabian Sea about 280 to 480 km off Kerala coast between 8^0 and $12^0 3'$ north laltitude and 71^0 and 74^0 east longitude.

AGRICULTURE

Coconut is the only major crop with a turn-over of Rs 3.5 crore in 1989-90. Area under cultivation was about 2,785 hectare. There are dairies at Kavaratti and Minicoy and poultry farms at Kavaratti, Androtl, Kalpeni, Minicoy, Agatti, Kadmat and Kiltan.

INDUSTRY

Coconut fibre extraction and conversion of its fibre products are the main industry in the islands. Fishing is another major activity. The sea around the island is highly productive. Number of mechanised fishing boats increased to 466 by March 1990, which are operated from both inhabited and uninhabited islands. The islands stand first in the country in per capita availability of fish.

TRANSPORT

Three ships MV *Tipu Sultan*, MV *Bharat Seema* and MV *Dweep Setu* carry passengers to and from the islands to Cochin, Mangalore ad Beypore ports. MV *Amindivi* carries cargo. Besides, there is an island-to-island and island-to-mainland helicopter service. Vayudoot links Agatti with the mainland thrice a week.

TOURIST CENTRES

Tourism is developing into an important industry. During 1990-91, 5,255 tourists visited the island of which 2,764 were foreigners.

GOVERNMENT

Administrator	:	Satish Chandra
Jurisdiction of High Court	:	Falls under jurisdiction of Kerala High Court.

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PONDICHERRY

Area : 492 sq km
Capital : Pondicherry

Population : 8,07,785
Principal Languages: Tamil, Telugu, Malayalam, English and French.

HISTORY AND GEOGRAPHY

The Territory of Pondicherry comprises of the former French establishments of Pondicherry, Karaikal, Mahe and Yanam which lie scattered in south India. Pondicherry, the capital of the territory was once the original headquarters of the French in India. It is bounded on the east by Bay of Bengal and on the other three sides by the South Arcot district of Tamil Nadu. About 150 km south from Pondicherry on the east coast lies Karaikal while Mahe is situated on the Malabar coast. Yanam is situated adjoining the East Godavari district of Andhra Pradesh.

AGRICULTURE

Nearly 45 per cent of population in the Union Territory is engaged in agriculture and allied pursuits. Ninety per cent of the cultivated area is irrigated. Besides rice, other minor food crops *viz. ragi, bajra* and pulses are grown in the Union Territory. Sugarcane, groundnut and cotton are principal cash crops. Average per hectare consumption of nitrogen, phosphorous and potash put together is about 303 kg.

In 1992-93, 24,500 hectare is likely to be covered under rice. Foodgrain production will be 1,16,000 mt. Production of cotton and sugarcane will be in the order of 13,000 bales of 180 kgs and 4,30,000 mt respectively.

INDUSTRY

There are at present as on 31 March 1993, 21 large scale industries and 57 medium scale industries manufacturing items such as textiles, sugar, yarn, spirit and beer, pottassium chlorate, para nitro chloro benzene and nitro ortho chloro benzene, rice bran oil, auto parts, soap, talcum powder, amino acids, disposable syringes, roofing sheets, nylon monofilaments, hard gelatine capsules, laundering, washing machine, glass and tin containers, biopolymers, injection moulded plastic components, leather shoes and uppers, caustic soda, steel tubes, LPG cylinders, oxygen and acetelyne gas and industrial alcohol etc.,

In addition to these large and medium scale units, there are 4,455 small scale industries which are manufacturing various domestic items, consumer, commercial and industiral products, plastic goods, engineering items, chemical products, pharmaceutical items, paper products, precious stones and jewellery, handicraft items, shampoo, talcum powder, electrical and electronic items, computers, agricultural accessories and implements, electricity generators, hatchery etc., All these industries together generate employment opportunities to 52,103 persons.

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IRRIGATION AND POWER

Irrigation in Pondicherry is mainly through tanks and tube-wells. There are 86 tanks with an Ayacut of 6,765 ha of which two are comparatively bigger (Oustery and Bahour). The tube-well irrigation system is almost in the private sector. In Karaikal irrigation is done through a network of 6 canal systems running to 79.02 km.

At present there is no generating station in the Union Territory of Pondicherry and the power requirements are being met by availing the shares from Central generating station and by purchasing power from neighbouring state electricity boards. However to meet the growing demand of power, it has been contemplated to establish a combined cycle gas power plant of 22.5 mw at Karaikal during the Eighth Plan period. A proposal has been approved by government for forming Pondicherry Power Corporation Limited. Rural electrification was completed by 1972 itself. During 1992-93 total demand of power has touched 140 mw whereas per capita consumption is anticipated to be 872 units (tentative). To provide stable supply a 230/110 kv S S has been commissioned with five new EHV S S at load centres at Pondicherry region. Establishment of another 230/110 kv S S at Bahour has been contemplated during Eighth Plan and is expected to be commissioned during 1994-95.

TRANSPORT

ROADS

The total length of roads as maintained by Public Works Department is 597.87 km of which national highways is 24.65 km, state highways 60.24 km, district roads 241.82 km and rural roads is 221.11 km.

RAILWAYS

Pondicherry is connected to Vilupuram junction.

AVIATION

The nearest main airport is Madras. Pondicherry is now connected with Vayudoot services to Madras.

TOURISM

Pondicherry is a living monument of French culture in India located 162 kms south of Madras. It is motorable from Madras within 3 1/2 hours. The most important places of tourist interest are beach, Botanical garden, Pondicherry Museum, Auroville, Sri Aurobindo Ashram, Bharathiar and Bharathidasan memorials, temples and churches, pleasure boating in the backwaters of Chunnambar (river) and other watersports activities and sea-cruising.

GOVERNMENT

Administrator	:	Dr. Bhishma Narain Singh
Chief Minister	:	V. Vaithilingam.

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Speaker : P. Kannan
Chief Secretary : Subhash Sharma
Jurisdiction of High Court : Falls under jurisdiction of Madras High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Are a (sq km)	Population	Headquarters
1. Pondicherry	293	6,07,600	Pondicherry
2. Karaikal	160	1,45,723	Karaikal
3. Mahe	9	33,425	Mahe
4. Yanam	30	20,297	Yanam

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30 Diary of National Events

(January 1992 to March 1993)

January

1 Prices of petrol, high-speed diesel (HSD), kerosene and liquified petroleum gas (cooking gas) increased in 11 states in accordance with the varying levies in those states.

— Prime Minister P V Narsimha Rao launches a scheme for revitalisation of Public Distribution System (PDS) in desert, drought prone, tribal and hill areas.

3 India and Britain finalise new extradition treaty and other agreements to seize funds belonging to terrorists and drug-traffickers.

4 An Ordinance seeking to amend the Representation of the People Act, 1951, doing away with the provision for countermanding of election in case of death of an independent candidate, promulgated.

— Leander Paes defeats Keith Evans 6-4, 6-2 to win the finals of the Satellite first-leg tennis tournament at Bombay.

5 A convention of the leaders of various political parties, members of Parliament and state legislature of Karnataka resolve to suspend the on-going agitation on the Cauvery issue and urge Prime Minister to initiate measures to resolve it before the commencement of Budget Session of Parliament.

6 Grandmaster Viswanathan Anand beats Alexander Belyavsky of Ukraine to win the Reggio Emilia Chess Tournament in Italy.

— The third cricket test match between India and Australia ends in a draw at Sydney, Australia.

— Manipur is brought under President's rule and the state assembly kept under animated suspension.

8 Railways announce a 30 per cent increase in the luggage charges.

9 Japan pledges 66 billion yen for five Indian development projects during 1991-92.

10 The 23rd International Film Festival of India begins at Bangalore.

11 India lose to West Indies by six wickets in the triangular one-day world series cricket match at Brisbane, Australia.

12 Renowned classical vocalist Kumar Gandharva, 67, passes away at Dewas in Madhya Pradesh.

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13 Centre clears seven major foreign investment proposals including tie-ups by Indian firms with General Motor and Coca Cola.

14 Veteran Gandhian and founder secretary of the Gandhigram Trust, V Krishnamurthy, 74, passes away at Madurai.

— Prof A K Dasgupta, 88, the renowned economist from South Asia, passes away at Shantiniketan, West Bengal.

— Australia beat India by nine wickets in the one-day world series competition cricket match at Sydney, Australlia.

15 Punjab elections announced. Polling to 13 Lok Sabha and 117 Assembly seats to be held on 19 February 1992.

— Dr M Channa Reddy is appointed Rajasthan Governor.

— India and Russia finalise a new political treaty and sign memoranda of understanding on trade and supplies of defence and power generation equipment.

— Haridas Banerjee, 67, freedom fighter and close associate of Netaji Subhas Chandra Bose passes away in Calcutta.

— Noted film art director K Nageswara Rao, 60, passes away in Madras.

16 Iron and steel prices are decontrolled. Partial distribution control for the priority sectors to remain.

— The Centre approves import of 10 lakh tonnes of wheat to bring down the price.

— India and Britain reach at a broad agreement on a bilateral extradition treaty and confiscation of properties of those involved in terrorism.

— India beat West Indies by five wickets to enter the finals of World Series Cup cricket match at Melbourne, Australia.

18 Australia beat India by 88 runs in the first of the three-final World Series Cup cricket match at Melbourne, Australia.

19 An Ordinance reducing the minimum official election campaign period from 20 to 14 days is promulgated.

— India beat New Zealand 4-2 to win the Indira Gandhi Gold Cup Hockey Tournament in New Delhi.

20 The PLO Chairman Yasser Arafat, arrives in New Delhi on a three day state visit.

— The noted Hindi poet, Dr Harivansh Rai Bachchan is conferred the first Saraswati Samman award for the year 1992.

— Australia beat India by seven runs to win the Benson and Hedges Trophy in the World Series Cup cricket match at Sydeny.

21 The PLO Chairman Yasser Arafat, receives the first Indira Gandhi Award for International Justice and Harmony.

— Kamlesh Mehta creates history by winning the men's singles for the seventh time in the final of the Puma Carona national table tennis

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championships at Bombay. Niyati Shah retains the women's singles title.

22 Bharat Ratna, the highest civilian and most prestigious award, is conferred posthumously on Subhas Chandra Bose and Maulana Abul Kalam Azad.

25 The Portuguese President, Maro Soares arrives in New Delhi on a 10-day state visit.

— J.R.D. Tata, doyen of Indian industry is conferred Bharat Ratna. Atal Behari Vajpayee, Aruna Asaf Ali and late V. Shantaram are among the 10 recipients of Padma Vibhushan. Noted musicians Hari Prasad Chaurasia, Devabrata Chaudhuri figure among the 34 to receive Padma Bhushan. Among the 80 recipients of Padma Shri, prominent are M.K. Narayanan, Mark Tully, Naushad and Jaya Bachchan.

26 Late Captain Sandeep Shankla of the Dogra regiment is awarded Ashok Chakra, the highest gallantry award, posthumously.

27 Veteran actor Bharat Bhushan, 71, passes away in Bombay.

— Hindi scholar and critic, Ram Vilas Sharma is selected for "Vyas Samman" for the year 1991.

29 India establishes full diplomatic ties with Israel.

— Australia beat India by 38 runs in the fourth cricket test match in Adelaide, to establish a 3-0 lead in the five-test series.

30 Prime Minister P.V. Narasimha Rao leaves on a five-day tour to attend the UN Council Summit in New York.

31 In his address to the first ever summit of the Security Council, Prime Minister P.V. Narasimha Rao calls for global approach on nuclear issue.

— Prime Minister P.V. Narasimha Rao meets President George Bush in New York and discusses a wide range of issues including growth of terrorism, Indo-US trade relations, nuclear non-proliferation.

— Veteran journalist Amitava Dasgupta, 78, passes away in Calcutta.

— Noted film actor Bhagwan Sinha, passes away in Bombay.

February

1 Tenth World Book Fair opens in New Delhi.

— Popular film comedian and producer-director, Mohan Choti, 52, passes away in Bombay.

— Shyam Lal Goel, 95, veteran freedom fighter and a close associate of Mahatma Gandhi passes away in New Delhi.

2 Prime Minister P.V. Narasimha Rao reaches Davos (Switzerland) to participate in the annual World Economic Forum meeting.

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— Prime Minister P.V. Narasimha Rao and Pakistan Prime Minister Nawaz Sharief, meet in Davos and resolve to work to reduce tension between the two countries.

— Prime Minister P.V. Narasimha Rao while speaking to the congregation of world business leaders in Davos (Switzerland), assures them that the economic reforms in India would continue and urges foreign investors to explore the possibility of massive investment.

— The budgetary support for the Central Plan for 1992-93 is cut by over Rs 3,000 crore.

— Kapil Dev becomes the second bowler after Richard Hadlee of New Zealand to take 400 wickets in test cricket.

4 India deplores the Pakistan Prime Minister's call for a nationwide strike in his country to express solidarity with the JKLF.

5 Capt Amarinder Singh of Akali Dal (K) and two Congress-I candidates Dilbagh Singh Daleke and Jagir Singh are declared elected unopposed to Punjab Assembly.

— In Meghalaya a 20-member Congress led United Meghalaya Parliamentary Forum (UMPF) Ministry headed by DD Lapang is sworn in.

— Australia beat India by 300 runs in the fifth and final test match at Perth, Australia.

8 INS Shalki, the country's first indigenously-built SSK (submarine-submarine killer) class submarine, is commissioned at the naval dockyard, Bombay.

— Seven people are killed and about 20 injured, when a bomb exploded in a Delhi-bound Ferozepur-Delhi-Malwa Express train in Jind district of Haryana near Dharodi railway station.

9 Karnataka Cooperation Minister, H.K. Patil, 67, passes away in Madras.

10 The all-party meeting specially convened by Prime Minister, endorses the Government's steps and diplomatic initiative in restraining the confrontationist attitudes of Pakistan.

11 The Jammu and Kashmir Liberation Front's (JKLF) bid to cross the Line of Actual Control is foiled by the Pakistani forces.

12 Jammu and Kashmir Liberation Front (JKLF) leader, Amanullah Khan is arrested near Chakoti, in Pakistan-occupied Kashmir.

13 JKLF leader Amanullah Khan calls off the proposed march to cross the Line of Control into India.

— Extremists massacre 39 persons in Bara village near Gaya in Bihar.

— Eight persons are killed in Hapur, Uttar Pradesh.

15 Tamil Nadu Government decides to make the interim order of the tribunal the basis for the talks among the Chief Ministers.

16 Seven campaigners of the Bahujan Samaj Party (BSP) are killed in Jalandhar.

17 Tripura Chief Minister Sudhir Ranjan Majumdar quits, as Tripura Upajati Samiti (TUJS) withdraws support, bringing down the four year old coalition government.

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— Mohun Bagan regains the Federation Cup football trophy beating arch rivals, East Bengal 2-0 in Calcutta.

18 Over 65 pilgrims are killed in a stampede following a wall collapse, during the *Mahamaham* celebrations at Kumbakonam, near Madras.

— Militants kill 13 labourers in Sangrur, Punjab.

— Indira Priyadarshini Vrikshamitra Award, Indira Gandhi Paryavaran Puraskar and Pollution Control awards are given away to environmentalists, non-government organisations and some industrial units.

— Sultanpur Bird Sanctuary in Haryana is declared a national park and dedicated to the memory of the noted ornithologist, late Dr Salim Ali.

— M.B. Kaushal takes over as the new Police Commissioner of Delhi.

19 Around 30 per cent turn out is recorded in the one-day Punjab poll.

— A 12-member single tier Congress-I-TUJS coalition ministry led by Samir Ranjan Barman is sworn in Agartala, Tripura.

— The Sangeet Natak Akademi awards for 1991 are given away in Jaipur.

— Eminent artist, painter and former chairman of Lalit Kala Academy Narayan Shreedhar Bendre, 82, passes away in Bombay.

20 Congress-I sweeps Punjab elections winning two-third majority in the state assembly. Of the 113 results declared Congress-I gets 84, Akali Dal (K)-3, BSP-9 and BJP-6.

21 Congress-I bags 12 Lok Sabha seats out of 13 in Punjab polls.

— President of Kazakhstan, N.A. Nazarbaev arrives in New Delhi on a state visit.

— Election Commission derecognises three national parties, the Janata Dal (Samajwadi), the Lok Dal and the Indian Congress (Socialist-Sarat Chandra Sinha).

— Centre bans the militant outfit Jammu and Kashmir Liberation Front (JKLF).

— Services beat Indian Airlines 5-4 to lift the Rangaswamy Cup in the Lifebuoy 55th men's national hockey championships at Madurai.

22 Visiting Kazakhstan President discounts all reports of an emerging Islamic fundamentalist bloc in the central Asian Republics of the former Soviet Union.

— India lose to England by nine runs in the opening match of the Fifth World Cup in Perth, Australia.

23 Leading industrialist H.C. Kothari, 74, passes away in Madras.

24 Budget Session of Parliament begins with the Left and National Front parties boycotting the Presidential address. In his address President R. Venkataraman expresses concern at the price rise and wants the new economic policy to be more development oriented.

24 Namibian President Dr Sam Nijoma arrives on a six-day state visit in New Delhi.

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25 Railway Budget for 1992-93 is presented with 20 per cent hike in upper class rail fares and modest increase in second class charges. The suburban fares are raised by 50 per cent and the freight rates by seven per cent.

— In Punjab, a 26-member Congress ministry, headed by Beant Singh is sworn in.

— Twenty-two poets, writers and literateurs of different languages are presented the Sahitya Akademy awards for 1991.

— Dr Sam Nijoma, the Namibian President is conferred the Indira Gandhi Prize for Peace, Disarmament and Development for 1990.

26 Justice Manitosh Majumdar, 56, of the Calcutta High Court dies of a cerebral attack at Calcutta.

27 Both Houses of Parliament approve President rule in Jammu and Kashmir by another six months from March first week.

28 India and Britain sign an extradition pact in New Delhi which marks a new international model for cooperation against terrorism.

29 Manmohan Singh, Finance Minister presents the Union Budget for 1992-93 announcing a new system of partial convertibility of the rupee. The income tax exemption limit is raised to Rs 28,000 and control over capital issues abolished. NRIs allowed to bring gold at moderate duty.

March

1 Australia defeats India by a single run in a World Cup cricket match at Brisbane, Australia.

2 India's ace diplomat, Subimal Dutt, 89, passes away at Calcutta after a prolonged illness.

4 India beat Pakistan by 43 runs in a crucial World Cup cricket match at Sydney, Australia.

5 Veteran comedian Sunder, 78, passes away at his residence in Bombay after a prolonged illness.

7 Government clears three major coal projects to be completed at a total cost of Rs 2,137.93 crore.

8 The former Chief Minister of Karnataka Kadidal Manjappa, 85, passes away at Bangalore.

9 P.V. Narasimha Rao Government wins a trial of strength in the Lok Sabha as the motion of thanks to the President is passed by a voice vote after the opposition-sponsored amendments were rejected.

— P. Chidambaram, the Union Commerce Minister inaugurates the 40th Congress of World Federation of Advertisers in the capital.

— Kerala defeat Goa 8-0 to win the Santosh Trophy at Coimbatore.

10 In an unprecedented judgement the Supreme Court quashes the Presidential order appointing K.N. Srivastava as judge of the Guwahati High Court on grounds of ineligibility.

— Militants kill 16 workers in Sangrur district, Punjab.

— West Indies defeat India by five wickets in a World Cup match at Wellington, New Zealand.

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11 Prime Minister, P.V. Narasimha Rao arrives in Port Louis on a two-day visit to Mauritius.

— M.G. Deo, director of the Cancer Research Institute is awarded the Rameshwardas Birla national award for 1992 at Bombay.

— Thirty-first open National Athletics Championship starts at the Priyadarshini Park, Bombay.

12 India loses to New Zealand by four wickets in a World Cup cricket match at Dunedin, New Zealand.

— Prime Minister, P.V. Narasimha Rao who is the Chief Guest of the celebrations, greets the people of Mauritius on the occasion of it becoming a Republic.

13 Prime Minister, P.V. Narasimha Rao returns to the capital after his two-day visit to Mauritius.

— Speaker of the Lok Sabha, Shivaraj Patil recognises the breakaway TDP group as a separate entity in the House.

14 Militants massacre 20 people in Ludhiana, Punjab.

— Dr Rahi Masoom Reza, 64, noted poet, novelist and leading screen play-dialogue writer for Hindi films passes away at Bombay following a heart attack.

15 India loses to South Africa by six wickets at Adelaide and is thus out of the World Cup Cricket Championship.

16 Nine candidates from Andhra Pradesh and Kerala are declared elected unopposed to the Rajya Sabha.

— India and South Korea sign a civil aviation agreement opening new air routes between the two countries.

— Noted freedom fighter and former member of Parliament Kalyan Chandra Balmiki passes away at Allahabad.

17 Lok Sabha passes the Railway Budget with concessions for suburban and upper class passengers.

— Noted industrialist, philantrophist and former Rajya Sabha member Shriyans Prasad Jain, 84, passes away at Bombay after prolonged illness.

— Islamic scholar Maulana Habibur Rehman Azami, 95, passes away at Azamgarh.

— Askar Akaev, President of Kyrghyzstan arrives in Delhi on a three-day state visit to India.

18 Militants kill twenty people in Ludhiana, Punjab.

— Parliament approves the Representation of the People (Amendment) Bill, 1992, which provides for the continuation of the electoral process in the event of the death of an independent candidate.

— President R. Venkataraman and Prime Minister P.V. Narasimha Rao hail the results of the South African referendum favouring the establishment of majority rule in that country.

20 Bharat Ratna, the nation's highest civilian award is conferred on the film maestro Satyajit Ray.

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— Zeeshan Ali and Aradhana Reddy win the men's and women's singles respectively in the Standard Chartered Indian Open Tennis Championship at Goa.

21 Terrorists kill 15 persons in Ahmedgarh, Punjab.

— Five persons die when Tirupati bound Tirumala Express from Visakhapatnam derailed near Kavali, Andhra Pradesh.

23 G S Dhillon, 78, the former Lok Sabha speaker, passes away in New Delhi after a prolonged illness.

24 Congress-I wins six of the nine Rajya Sabha seats in five states that went to polls.

25 Leonid Kravchik, Ukraine President arrives in Delhi on a five-day visit to India.

26 Lok Sabha passes the Union Budget with the Finance Minister, Dr Manmohan Singh announcing Rs 245 crore concession in indirect taxes.

— Eminent economist, Dr Pritam Singh, 72, passes away in New Delhi after a prolonged illness.

— India and Bangladesh reach an agreement providing for rights of passage for Bangladesh from June 26 through the Tin Bigha area.

27 Prime Minister P.V. Narasimha Rao and the visiting Ukraine President Leonid Kravchik sign the Indo-Ukraine friendship pact in Delhi.

— Nagaland assembly is dissolved.

— Chief Judicial Magistrate of Bhopal issues a non-bailable warrant against Warren Anderson, former Chairman of the Union Carbide Corporation accused in the Bhopal gas case.

28 President R. Venkataraman confers Bharat Ratna on the eminent industrialist J.R.D. Tata at the Rashtrapati Bhavan.

29 Ginn Stewart of Australia wins the Indian Open Golf Championship at Calcutta.

30 Sunil Mukherjee, 78, a veteran leader of the Communist Party of India passes away at Patna.

31 Madhav Singh Solanki, the Minister for External Affairs resigns from the Union Cabinet over the Bofors issue.

— Delhi beat Tamil Nadu by virtue of their 83 run first innings lead to win the Ranji Trophy at Delhi.

April

1 Ace athelete Shiny Wilson is presented the Chinese Sports Journalist Award in New Delhi.

2 Veteran comedian and actor Agha, 80, passes away at Pune following a heart attack.

— Arun Kumar Budhiraja is appointed India's ambassador to Jordan.

— Defence Minister Sharad Pawar heading a high-level delegation leaves for a week long visit to the United States.

3 Centre imposes President's rule in Nagaland.

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— Dipankar Prasad Gupta, a senior advocate of the Calcutta High Court is appointed as the Solicitor General of India.

4 Congress candidates are declared elected unopposed to all the five Rajya Sabha seats from Punjab.

5 Zulfikar Ali Khan, 59, a former member of Parliament and the last *nawab* of Rampur passes away at New Delhi.

6 President R. Venkataraman confers the Padma Vibhusan awards to Atal Bihari Vajpayee and others at the Rashtrapati Bhavan.

— Twenty one persons killed and 15 injured when the Bitraguntа-Vijayawada passenger train hit a stationary goods train near Tsundur in Andhra Pradesh.

7 The 39th National Film Awards announced. Satyajit Ray gets the *Swarna Kamal* for his Bengali film '*Agantuk*' which has also been adjudged the best feature film of 1991.

— Defence Minister Sharad Pawar holds talks with the US Defence Secretary Cheney at Washington on strengthening Indo-US defence cooperation.

8 A two-member Congress led coalition ministry headed by R.K. Dorendra Singh is sworn-in in Imphal following revocation of President's rule.

9 World Masters Billiards Championships opens at the capital.

10 Basad Ali wins the DCM Open Golf Tournament at New Delhi.

11 Well-known Marathi film maker Bhalji Pendharker is selected for Dadaseheb Phalke Award for 1992.

— Geet Sethi defeats Australian Robby Foldwari to win the World Masters Billiards championship in the capital.

— Centre dismisses the Nagaland Governor M.M. Thomas.

12 A veteran communist leader and Parliamentarian Mekkeneni Basavapunniah, 77, passes away at New Delhi following a cardiac arrest.

13 President R. Venkataraman presents gallantry awards to 48 defence and civilian personnel at the investiture ceremony at the Rashtrapati Bhavan.

— Vice-President Dr Shanker Dayal Sharma arrives in Kwang-chu on a seven-day visit to North Korea and Mongolia.

— Assam Governor Loknath Mishra is sworn in as the acting governor of Nagaland in the Raj Bhavan at Kohima.

14 Inaugurating the 79th plenary session of the Indian National Congress at Tirupati, the Prime Minister and Congress President P.V. Narasimha Rao announces the holding of elections for the Congress Working Committee (CWC).

15 Krishna Kripalani, 85, eminent writer and former Sahitya Academy secretary and a member of the Rajya Sabha passes away at Santiniketan.

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— East Bengal lifts the Airlines Gold Cup by defeating Mohun Bagan by a solitary goal at Calcutta.

— The Congress Party holds elections to its Working Committee at the plenary session in Tirupati.

16 D.T. Lakadawala, 75, eminent economist and former deputy chairman of the Planning Commission passes away following a massive heart attack during a train journey near Ahmadabad.

— Raja Bhalendra Singh, 72, a senior member of the International Olympic Committee and a former President of the Indian Olympic Association (IOA) passes away in the capital after a prolonged illness.

18 Turkmenistan President Saparmurad Niyazov arrives in the capital on an official visit to India.

20 India and Turkmenistan sign economic and trade pacts as part of the bilateral talks between the visiting Turkmenistan President S.A. Niyazov and Prime Minister P.V. Narasimha Rao in the capital.

21 United Nation's Secretary General Boutros Ghali arrives in the capital on an official visit to India.

— President R. Venkataraman honours 39 defence personnel with gallantry awards at the Defence investiture ceremony at Rashtrapati Bhavan.

22 Prime Minister P.V. Narasimha Rao has wideranging discussions with the visiting UN Secretary General Boutros Ghali in the capital.

23 Cinema maestro and Bharat Ratna Satyajit Ray passes away at Calcutta after a prolonged illness.

25 Gauraw Natekar and Janaki Krishnamurthy win the National Hard Court Tennis Championship men's and women's single titles respectively at Bombay.

26 Markandey Singh resigns as the Lt Governor of Delhi.

27 A.G. Kulkarni, 75, a veteran parliamentarian and MP from Maharashtra passes away at Pune following a cardiac arrest.

— Maneka Gandhi is given this year's Lord Erskine award of the Royal Society for Prevention of Cruelty to Animals (RSPCA), London for her contributions to the cause of animal welfare.

28 Eminent Kannada literateur and Jnanpith award winner Dr Vinayaka Krishna Gokak, 82, passes away at Bombay following a cardiac arrest.

— President of the United Arab Emirates Sheikh Zayal bin Sultan al Nahayam arrives in the capital on a three day official visit to India.

29 Eighteen persons killed and several injured in a series of explosions in the Naya Bazar area of old Delhi.

30 Union Finance Minister Dr Manmohan Singh announces several direct and indirect tax concessions including restoration of Section 80 L with a monetary ceiling of Rs 7,000 and a 50 per cent cut in gold import duty.

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May

1 P.K. Dave is appointed Lt Governor of Delhi.

— Sanskriti awards for 1991 in the fields of literature, arts, performing arts, journalism and social cultural works are announced.

— India takes a 2-0 lead over Indonesia in the Asia-Oceania Zonal qualifying round of the Davis Cup as Ramesh Krishnan and Leander Paes win their single matches at Jakarta.

2 India clinches the Davis Cup tie by a 3-0 lead over Indonesia when they win the doubles match of the Asia-Oceania Zonal qualifying round at Jakarta.

3 Militants kill 32 persons in separate incidents in Haryana and Punjab.

— Dr Gennady Burbulis, the Russian Secretary of State arrives in the capital on a three-day official visit.

4 India and Russia sign a five year trade and economic agreement at New Delhi.

5 *Prithvi*, India's medium range surface-to-surface missile is successfully launched from the interim test range at Chandipur-on-sea.

6 Lok Sabha passes the Finance Bill with a comfortable margin after the Finance Minister Dr Manmohan Singh rejects the demand for more income tax concessions.

— Indian archer Limba Ram equals the world record for the 30 meter event at the China International Archery Tournament at Beijing.

— President R. Venkataraman presents the 39th National Film Awards in the capital. Among others the Malyali actor Mohanlal gets the best actor award while the Assamese actress Maloya Goswami gets the best actress award.

7 Militants kill 15 persons in Dachhar village in Karnal district, Haryana.

8 More than 100 killed in a liquor tragedy at Cuttack, Orissa.

— Planning Commission, presided over by the Prime Minister P.V. Narasimha Rao okays the Eighth Plan document.

— Limba Ram of India wins gold in the international invitation archery tournament at Beijing.

9 Twelve killed and 49 including the Punjab Minister for Public Health Maninderjit Singh Bitta injured in a bomb blast in Amritsar.

— India defeat Pakistan 2-0 in the Asia Cup (Group 3) qualifying football tournament at Calcutta.

— India beat Belgium 4-0 in a hockey match in their pre—Olympic European tour at Brussels.

10 Militants kill Dr D.S. Tyagi, Chairman, Commission for Agricultural Costs and Prices in New Delhi.

11 Government orders CBI probe into the Rs 2,500 crore stock market scandal.

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— India recognises Croatia, Slovenia and Bosnia-Herzegovina as independent States.

— The well-known theatre personality, Vijaya Mehata is awarded the 1991-92 Kalidas Samman award.

12 Lok Sabha adjourns sine die after the budget session.

— Three Indians, Dipak Lokjung, Havildar, Santosh Yadav, inspector and Mohan Singh, sub—inspector of the Indo-Tibetan Border Police scale Mount Everest.

13 Bhaurao Deoras a senior leader of the Rashtriya Swayamsevak Sangh (RSS) passes away in the capital after a prolonged illness.

— Iran beat India 3-0 to lift the Charminar Challenge Trophy in the Asia Cup Qualifying Football tournament at Calcutta.

14 Centre bans the Liberation Tigers of Tamil Eelam and is declared an unlawful association under the Unlawful Activities (Prevention) Act, 1967.

— Noted labour leader and freedom fighter B.N. Rajhans, 72, passes away at Pune following a heart attack.

17 Virendra Gupta is appointed charge 'd' affair to Israel.

— President R. Venkataraman leaves for six-day official visit to China.

18 President R. Venkataraman holds bilateral talks with the Chinese President Yang Shangkun at Beijing.

— Iranian Foreign Minister, Akbar Velayati arrives in the capital on a brief visit to India.

19 President R. Venkataraman holds bilateral and international talks with the Chinese Prime Minister Li Peng at Beijing.

— Prime Minister P.V. Narasimha Rao holds talks with the visiting Iranian Foreign Minister Velayati Khan in the capital.

— India beat Maldives 1-0 to win the Asian Youth Football Championships at Kanaur.

— Arjuna and Dronacharya Awards for 1991 announced.

20 The Indira Gandhi prize for peace and disarmament conferred posthumously on Rajiv Gandhi.

— India's Augmented Satellite Launch Vehicle (ASLV) is launched successfully from Sriharikota, Andhra Pradesh.

21 M.K. Khisha is appointed India's ambassador to Argentina.

22 Prime Minister P.V. Narasimha Rao inaugurates the 44th meeting of the National Development Council in the capital.

23 National Development Council endorses the Eighth Plan document.

— Noted sculptor Somnath Hore of West Bengal is selected for 1990-91 Kalidas Samman award.

— India beat Egypt 3-2 in the four-nation international hockey tournament at Madrid.

24 President R. Venkataraman on his return from China describes his visit as a positive step forward in Sino-Indian relations.

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25 Renowned Bengali literateur Subash Mukhopadhyay is selected for the Bharatiya Jnanpith Award 1991.

— R.M. Abhyankar is appointed ambassador to Syria.

26 The Bangladesh Prime Minister Begum Khaleda Zia arrives in the capital on an official visit to India.

— Prime Minister P.V. Narasimha Rao holds talks with the Bangladesh Prime Minister Begum Khaleda Zia on the river water's sharing issue.

27 India and Bangladesh sign cultural and economic agreements in the capital as part of the bilateral talks between the visiting Bangladesh's Prime Minister Begum Khaleda Zia and Prime Minister P.V. Narasimha Rao.

— Militants kill M.L. Manchanda engineer-cum-Station Incharge of All India Radio, Patiala in Punjab who was taken capitve on 18 May.

28 President of Mauritius Veerasamy Ringadoo arrives in the capital on a three-day official visit.

29 Election Commission announces the holding the election of the office of the President of India on 13 July.

— 'AGNI' India's international range ballistic missile (IRBM) is successfully test-fired for the second time from the Interim Test Range (ITR), Chandipuron-Sea (Orissa).

29 An ordinance to abolish the Government control on capital issues and pricing of issue offered by the corporate sector is promulgated by the President R. Venkataraman.

— India beat Japan 2-1 in the inaugural junior women's Asian Cup Hockey Tournament at Kuala Lumpur. The victory helped India earn the reserve slot for the Junior World Cup in Spain next year.

— Indo-US novel exercises, involving the Indian ships-INS Ranjit and INS Gomati and the US ship-David R. Ray and Vandergraft are concluded.

30 Justice Radha Charan Patnaik, 57, a puisne judge of the Supreme Court is killed in a road accident near Pratapnagari, Cuttack (Orissa).

— India beat world champions Holland 2-1 in hockey at Wassenar (Netherlands).

31 India beat Netherlands 2-1 in hockey at Wassenar (Netherlands).

June

1 India and Israel sign an agreement in the capital establishing direct air links with each other.

2 Veteran Congress leader, journalist, freedom fighter and member of Parliament Shri Yash passes away at Jallandhar following a massive heart attack. He was 73.

5. Union Minister for Environment, Kalpnath Rai signs the Convention on Biodiversity at the Earth Summit in Rio De Janerio, Brazil.

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— Prime Minister P.V. Narasimha Rao inaugurates the world's first Urdu news agency service launched by the United News of India (UNI) in the capital.

6 President R. Venkataraman promulgates an ordinance to establish special court to try the culprits in the securities scam.

— Pawan Pratap of Delhi wins the 14th Asia-Pacific junior golf tournament at Kuala Lumpur.

— Indian boxers win one silver and two bronze medals in the International Boxing Championship recently held at Mowa, Cuba.

8 Byelection to two Lok Sabha and 19 assembly seats held.

— Indian chess masters win the opening round of the 30th Chess Olympiad at Manila with a 3.5—0.5 win over Faroe Islands.

9 Rajesh Khanna of the Congress I wins the New Delhi Parliamentary byelections while six assembly seats go to the other parties.

10 Prime Minister P.V. Narasimha Rao holds bilateral talks with the Spanish Vice-President and acting Prime Minister Serra on his arrival at Madrid enroute to Rio to attend the Earth Summit.

— Indian men lose to Colombia 1.5-2.5 in the third round of the Chess Olympiad at Manila.

11 Justice Sundaram Nainar Sundaram and Justice Kanta Kumari Bhatnagar are appointed Chief Justices of the Gujrat and Madras High Courts respectively.

12 Prime Minister P.V. Narasimha Rao addressing the plenary session of the Earth Summit in Rio De Janeiro calls for the setting up of joint ventures between developed and developing countries to conduct research in environmental technologies.

13 Government attaches assets of three State Bank of India (SBI) officials involved in the securities scam.

— India beat Indonesia 3.5-0.5 in the fifth round of the men's Chess Olympiad at Manila.

14 Prime Minister P.V. Narasimha Rao holds informal talks with his Pakistani counterpart Nawaz Shariff in Rio De Janeiro where the leaders are attending the Earth Summit.

— India lose to Norway 1.5-2.5 in the sixth round of the men's chess Olympiad at Manila.

15 Tenth Finance Commission reconstituted with K.C. Pant as Chairman and four other members.

— Prime Minister P.V. Narasimha Rao arrives in Lisbon from Rio De Janeiro on a brief visit to Portugal.

— India out of the medal race in the Chess Olympiad as it loses to Austria 1.5-2.5 at Manila.

16 Prime Minister P.V. Narasimha Rao returns to the capital after a week long visit to Brazil and Portugal.

— Former Davis Cup tennis player Atri Madan Mohan, 84, passes away in the capital after a prolonged illness.

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— The United States announces fresh missile control sanctions against India.

18 Sixteen candidates elected unopposed to the Rajya Sabha.

— The two-day Indo-US official talks begin in the capital.

19 The Government slashes the excise and custom duties on cars, TVs and drugs.

— The two-day Indo-US bilateral talks end in the capital with India rejecting the proposal of signing the Nuclear Non-proliferation Treaty.

20 India move into the first ten in the Chess Olympiad by a 2.15-1.5 win over Sweden at Manila.

21 Prime Minister P.V. Narasimha Rao leaves for Tokyo on a five-day visit to Japan.

— India beat England 2.5-1.5 to move into the sixth position in the Chess Olympiad at Manila.

22 Prime Minister P.V. Narasimmha Rao holds talks with Japanese corporate leaders in Tokyo.

23 Prime Minister P.V. Narasimha Rao has wideranging talks with his Japanese counterpart Kitchi Miyazawa. Japan announces a 850 million aid to India.

24 Addressing press persons in Tokyo the Prime Minister P.V. Narasimha Rao calls for an international dialogue to review the Nuclear Non-proliferation Treaty (NPT).

— India lose to Ukraine 1.5-2.5 in the last round of the men's event in the Chess Olympiad at Manila.

25 Twenty two candidates from Orissa, Punjab and Tamil Nadu elected to the Rajya Sabha. Among them the BJP bags ten seats while the Congress — I gets six.

26 The Tin Bigha corridor is formally leased out to Bangladesh.

— The Aid-India Consortium pleadges 7.2 billion dollar aid to India at a meeting in Paris.

— President R. Venkataraman confers gallantry awards to 78 policemen.

28 Defence Minister Sharad Pawar leaves for Paris on a two-day official visit.

29 Shivajirao Bhave, 89, a prominent Gandhian passes away after a prolonged illness at Paunar Ashram, Wardha.

30 The International Monetary Fund releases $ 647 million to India as part of the stand by credit arrangement.

July

1 Chief Election Commissioner, T.N. Seshan declares biennial elections to seven Rajya Sabha and eleven Legislative Council seats from Bihar Assembly held on June 25 as *void* and passes severe strictures

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against both the Returning Officer and the Chief Electoral Officer of Bihar.

— Commerce Ministry liberalises the Export Promotion Capital Goods (EPCG) Scheme, redefines 'manufacture' to cover activities such as farming and product re-packing and revises the input-output norms for several export products.

2 Union Cabinet is expanded with the induction of five ministers of state and one deputy minister, strength rose to 62.

— Indian marksmen win six gold and three silver medals on the inaugural day of the First South Asian Shooting Championship at Colombo in Sri Lanka.

3 The Union Government decides to abolish octroi in the Union Terrirory of Delhi with immediate effect.

— Pargat Singh is to lead Indian hockey team in the forthcoming Barcelona Olympic Games.

— The Cabinet Committee on Economic Affairs clears a series of proposals of the Ministry of Petroleum and Natural Gas to invite private capital, both Indian and foreign, into the petroleum sector.

— Steffi Graf of Germany wins the Wimbledon Women's Singles title by defeating world number one Monica Sales of Yugoslavia.

5 The Centre abolishes octroi in all the union territories.

— Andre Agassi of United States wins men's Wimbledon title beating Goran Ivanisevic of Croatlia.

7 Transporters call off their seven-day old country-wide strike after Government decides to set up a Joint Committee to look into the transporters demands.

— Dr A.P.J. Abdul Kalaam is appointed Scientific Adviser to the Defence Minister in place of Dr V.S. Arunachalam who was availing 'Sabbatical Leave' for two years.

— Sukhvinder Singh, chief of the Babbar Khalsa International, dies in an encounter with the police in Lakhimpur (Kheri) district of Uttar Pradesh.

— World Bank announces an International Development Association (IDA) credit for 66.4 million dollar 'Special Drawing Rights' to expand rubber production in India.

8 Monsoon Session of Parliament begins.

9 Union Commerce Minister, P. Chidambaram resigns over investment in the Fairgrowth Company of Harshad Mehta.

— Ahmadabad-Howrah Express derails near Kasarkheda, 130 km from Nagpur, killing atleast 20 passengers.

10 Najma Heptulla re-elected Deputy Chair-person of Rajya Sabha for a third term.

— India's first indigenous multi-purpose INSAT-2A satellite successfully launched from Guiana Space Centre, Kourou, French Guyana.

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11 President, R. Venkataraman awards President's Police Medal for Gallantry, and Bar to Police Medal for Gallantry to Police Officers and Men for distinguished service.

— Russian Diplomat Alexander Ganith, who was missing since July sixth, is traced in Kullu in Himachal Pradesh and brought back to Delhi.

— Union Minister of State for Communication, Rajesh Pilot dedicates to the nation the Rs 23 crore Vikram Inmarsat Land Earth Station at Arvi near Pune, Maharashtra.

— Bahadur Prasad sets a national record in the 1500 metres at the International Meet at Crystal Place in London, Great Britain.

12 Maharashtra transporters call off their 12-day strike after successful discussions with the Chief Minister.

13 Electoral college consisting of Members of Lok Sabha, Rajya Sabha and State Legislatures exercise their franchise to elect the ninth President of India.

— Lucknow Bench of the Allahabad High Court rejects plea to stay digging at Ayodhya site.

14 Government announces the 79-member contingent for the Barcelona Olympics.

15 Supreme Court directs the Uttar Pradesh Government to file an affidavit on the ongoing "construction" activities at the disputed site in Ayodhya.

— The Election Commission announces the Tenth Vice-Presidential Election for 17 August 1992.

16 Dr Shanker Dayal Sharma is elected the ninth President of India.

— Security forces foil several attempts by Pakistan-trained militants to sneak into Indian territory in Poonch sector of Jammu and Kashmir border.

17 No-confidence motion against the Narasimha Rao Government fails by 215 to 267 votes.

— Government relaxes the provisions of the Foreign Exchange Regulation Act, for non-resident Indians and Indians having business interest abroad to attract investments.

— Orissa government ordinance repeals the Orissa Lokpal and Lokayukta Act.

18 The National Integration Council meet fails to reach a consensus on the Ram Janmabhoomi-Babri Masjid issue.

— Kanan Devi, 76, a Dada-Saheb Phalke awardee and the legendary glamour queen who ruled the Indian celluloid world for about two decades in the pre-independence era, passes away in Calcutta.

— Twenty two persons die and 14 others injured in a building collapse in Amritsar.

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19 Madhya Pradesh Government selects Urdu poet Majrooh Sultanpuri for Iqubal Samman for 1991-92.

— Asif Ismail wins the National Sports Club of India Tennis Tournament defeating Iqbal Dulara.

— Violence in Kashmir valley claims 23 lives including 17 militants, one deputy superintendent of police and two policemen.

20 The Centre earmarks Rs 700 crore for development of infrastructure for agro-products' export and marketing.

21 Security forces arrest 71 militants including Gazi Ilyas, commander-in-chief of 'Allah Tigers' in the Kashmir valley.

— Rajya Sabha passes a Bill providing statutory powers to the Rehabilitation Council of India.

22 Supreme Court wants Uttar Pradesh government to halt temple construction at Ayodhya.

— V. Krishnamurty resigns as member of the Planning Commission over investment in Fairgrowth Company.

23 Prime Minister, P.V. Narasimha Rao, holds several rounds of talks with his advisors followed by an important meeting with some religious heads specially flown in from Ayodhya.

— Supreme Court gives last opportunity to UP Government to unconditionally stop the ongoing construction at the Ram Janambhoomi-Babri Masjid complex in Ayodhya by Tuesday next.

— The Government informs the Rajya Sabha that 54 missing Indian Defence personnel and some 936 Indian civil prisoners are believed to be in Pakistani prisons.

24 Parliament is adjourned till Monday without transacting any business on Ayodhya issue.

— Supreme Court dismisses pleas against Dr S.D. Sharma's election as President of India.

— Bombay High Court rejects a writ petition challenging the constitutional validity of the Special Court Ordinance, 1992.

— Bhanu Sachdeva sets a record in boys group 11 200 mtr. back stroke at the 19th National Junior Aquatics Championships in Thiruvananthapuram.

25 Dr Shanker Dayal Sharma is sworn in as the ninth President of India.

— Vishwa Hindu Parishad formally announces the end of *kar seva* at the disputed plot in Ayodhya.

— King Carlos of Spain opens the Olympic Games in Barcelona.

— Maharashtra beats Karnataka to become the overall champions at the 19th National Junior Aquatic Championships in Thiruvanathapuram.

26 Vishwa Hindu Parishad stops *kar seva* at the *shilanyas* site near the disputed structure in Ayodhya.

— World Bank refuses to withdraw aid to the Narmada Sagar project.

— A bus falls into the flooded Subansiri in Arunachal Pradesh killing 40 persons.

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27 Film star Amjad Khan, 49, passes away in Bombay following a heart attack.

— Former Union Energy Minister, Kalyan Singh Kalvi, 57, dies in Bombay.

28 Industrial policy is further liberalised with the Government waiving a number of conditions imposed earlier for the issue of letters of intent to industries delicensed under the new policy.

— Monsoon Session of the Lok Sabha is extended upto August 20 to complete pending business.

— Government decides to export 1.5 lakh bales of raw jute during the 1992-93 season.

— Army jawans are deployed to rescue hundreds of people marooned by flood waters of the Gambhiri river in Chittorgarh, Rajasthan following heavy rains.

29 Bombay High Court quashes land allotment to a cooperative housing society floated by top state bureaucrats and passes severe strictures against the concerned officials.

— The government names S. Rajagopal to succeed Naresh Chandra as Cabinet Secretary on 31 July.

30 Supreme Court strikes down Karnataka government's notification allowing private medical colleges to charge capitation fee from students from other states.

— CBI Joint Director, K. Madhavan seeks premature retirement for personal reasons.

— Parliament passes Foreign Trade Development and Regulation Bill 1992, allowing the import of components for the manufacture of consumer goods, although consumer items continue to be on the restricted list.

31 Supreme Court holds right to education at all levels, as a fundamental right of all citizens.

— Government extends duty-draw-back rates on imports to few items to promote exports.

— Australia is to provide about Rs 46.20 crore over the next five years to identify ground water resources in Orissa.

— Pandit Ravi Shankar the sitar player is chosen for the Magsaysay Award for 1992.

— Suspected Punjab militants kidnap and kill 29 villagers in Pilibhit in Uttar Pradesh.

August

1 CBI Joint Director K. Madhavan sees no evidence implicating any political leader in the securities scam.

— Fifteen militants and two securitymen are among twenty persons killed in the Kashmir valley.

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2 Bureau of Indian Standards' list on standards in force mounts to 15,539.

3 Government and opposition parties agree on the terms of reference of the JPC.

— Limbaram bows out of Olympic Archery Competition in Barcelona.

— Eleven terrorists including a new KLF chief, a CRPF jawan and three civilians are killed in Punjab.

— The third phase of repatriation of Sri Lankan refugees from Tamil Nadu begins.

4 National Socialist Council of Nagaland rebels kill 14 Border Security Force personnel and an Assam police officer in an encounter with the police in north Cachar hill district of Assam.

— Supreme Court constitutes a three member commission to inquire into the nature of construction in Ayodhya.

— Andhra Pradesh High Court stays admissions to all new private medical colleges.

— RBI prohibits banks from rediscounting bills earlier discounted by non-bank financial companies.

5 Sikkim Government starts issuing citizenship certificates to applicants cleared by the Union Home Ministry.

6 Lok Sabha adopts unanimously a motion for the appointment of a 30 member Joint Parliamentary Committee to investigate the securities scam.

— Narmada Control Authority rejects the Morse report on the Sardar Sarovar Project stating it over stepped its terms of reference.

— Cabinet Committee on Foreign Investment clears 10 major foreign investment proposals.

— Mideast (India) Limited and China Metallurgical Import and Export Corporation sign a memorandum of understanding in New Delhi for setting up a steel plant in Orissa, the first Indo-Chinese joint venture.

— Dalai Lama opens a monastery at Kasumpti in Himachal Pradesh, the replica of a 382 year old Buddhist monastery at Dorjidak in South Lhasa, Tibet, destroyed by the Chinese in 1949.

7 Janata Dal splits with 20 MPs parading before the Lok Sabha Speaker demanding separate seats.

— West Bengal High Court strikes down the entire system of *madrasah* education in the state.

8 President Dr Shanker Dayal Sharma calls for wiping out terrorism, poverty and ignorance while addressing a joint session of Parliament, marking the start of the golden jubilee celebrations of the Quit India Movement.

— Cabinet Committee on foreign investment approves investment proposals of three American firms.

— CBI relieves its Joint Director, K. Madhavan from all the seven stock scam cases.

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— Freedom fighter Aruna Asaf Ali is chosen for the Jawaharlal Nehru Award for International Understanding 1991.

9 Massive landslides in Mizoram kill 78 persons and injure 44, most of them Bihari labourers.

— Jharkhand Mukti Morcha splits with the explusion of two MPs and nine MLAs.

— Punjab violence claims 24 lives including 16 militants'. Babbar Khalsa chief is among the dead.

— Barcelona Olympic games conclude.

10 Militants gun down 31 security men and their family members in Punjab.

— Lok Sabha speaker Shivraj Patil appoints Ram Nivas Mirdha as the Chairman of the JPC to probe the securities scam.

— Parliament passes Capital Issues (Control) Repeal Bill 1992, giving necessary statutory powers to the Securities and Exchange Board of India (SEBI)

11 Government appoints some new secretaries/additional secretaries.

— Stampede in Hanumangarhi temple in Ayodhya claims eight lives.

— Terrorists kill 17 more relatives of policemen in Punjab.

12 Government raises freedom fighters' monthly pension by Rs 250.

— JPC probing the securities scam holds first sitting in New Delhi.

— Seventy-two Punjab militants surrender.

13 Tamil Nadu government sets up a commission of inquiry to investigate charges against DMK president and former chief minister M. Karunanidhi.

— Rajasthan High Court orders the state government to hold elections to municipal bodies by 15 November.

— A team of five scientists from the DRDO are awarded the National Research Development Corporation's Independence Day awards.

— Suspected NSCN rebels kill 13 persons in Nagaland.

14 Lok Sabha speaker allots separate block to 20 Janata Dal rebel MPs.

— Union Cabinet approves Local-self Government Bills.

— Violence claims 20 lives including 18 militants' in the Kashmir valley.

— Sandalwood smuggler Veerappan and his gang kill police superintendent T. Harikrishna and eight policemen at Male Mahadeshwara hills in Karnataka.

— Government introduces self declaring passbook scheme allowing easier import to exporters under the advanced licensing system.

15 Addressing the nation on the 46th Independance Day the Prime Minister calls for three-year freeze on all explosive issues dogging the country.

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— Kashmir militants fire rockets at Independence-day parade in Srinagar.

16 The 14-month-old Bharatiya Janata Party ministry in Uttar Pradesh is reconstituted. The strength of the council has risen from 46 to 51.

— Twelve ministers in the Janardana Reddy Cabinet in Andhra Pradesh forward their resignation letters to AICC President and Prime Minister P.V. Narasimha Rao.

17 India tells the visiting Pakistani delegation headed by their Foreign Secretary, Shahryar Khan, that it is not possible to isolate individual Articles of the Shimla Agreement.

18 The eighth launch of *Prithvi,* medium range surface-to-surface missile is carried out from the interim test range at Chandipur in Orissa.

— The former Gujarat Governor and veteran Congress leader, K.K.Viswanathan, 78, dies following a massive heart attack.

19 K.R. Narayanan is elected as Vice-President of India.

— The sixth round of Indo-Pak Foreign Secretary-level talks end in New Delhi. Both countries put into motion a series of confidence-building measures aimed at reducing tension in the sub-continent.

— India wins the international volleyball tournament for the Sivanti Gold Cup defeating Pakistan.

20 Parliament approves the Sick Industrial Companies (Special Provisions) Amendment Bill seeking to enhance the effectiveness of the Board of Industrial and Financial Reconstruction and to remove certain ambiguities in the original Act.

— Lok Sabha unanimously passes the Constitutional Amendment Bill for inclusion of Nepali, Manipuri and Konkani in the Eighth Schedule of the Constitution.

21 K.R. Narayanan is sworn-in as the ninth Vice-President of India at a brief ceremony in Rashtrapati Bhavan.

22 Dreaded militant Jagtar Singh alias Kuker, of the Khalistan Liberation Force, responsible for over 300 killings is among 23 militants killed in Punjab.

— The Congress and its allies attain a simple majority in the Lok Sabha with the merger of the six-member breakway group of Telugu Desam Party with the ruling party. In a 532 member House, the ruling party and its allies now account for 268 seats.

23 The Indian Embassy in Kabul is hit by a rocket injuring 20 visa-seekers and smashing two vehicles parked inside the compound.

24 India denies Pakistan Foreign Secretary's alleged claim that both had reached an agreement on the withdrawal of troops from Siachen, at the just concluded Foreign Secretary level talks.

25 The security forces launch Operation Night Dominance in Punjab to foil the movements of militants under the cover of darkness.

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— The Government announces decontrol of prices, distribution and movement of phosphatic and potassic fertilisers alongwith a 10 per cent reduction in the price of urea to bring down subsidy burden by a whopping Rs 4,100 crore in a full year.

— India starts evacuating its 22 embassy personnel from the strife-torn Kabul.

26 Amonia leak at National Fertilizer Plant in Panipat claims ten lives.

— Chief Justice of the Punjab and Haryana High Court M. Rama Jois resigns reportedly to protest against elevation of two judges junior to him to the Supreme Court.

— The Government confirms the appointment of S.K. Dutta as Director of Central Bureau of Investigation.

— Satish Chandra, India's Ambassador to the Philippines is appointed India's permanent envoy to the UN offices in Geneva.

— India and Bangladesh begin talks on sharing of waters of Ganga and other rivers in Dhaka.

27 BSF I.G. Tarlok Singh Dhaliwal dies in a plane crash in New Delhi.

— Harshad Mehta main accused in the securities scam granted bail by the Bombay High Court but rearrested for violations of FERA.

28 Supreme Court passes severe strictures on the former Delhi High Court Judge, Justice Maharaj Krishan Chawla, who on the eve of his retirement two years ago had quashed the FIR filed by the CBI in the Bofors Hawitzer kick-back case.

— The Tax Reform Committee, headed by Dr. Raja J. Chelliah has recommended agricultural income in excess of Rs 25,000 accruing to non-agriculturists to be taxed.

— The Sawant Committee Report on the Supreme Court Judge, V. Ramaswami, submitted to the Lok Sabha speaker, Shivraj Patil.

29 India's indigenous surface-to-surface missile, *Prithvi,* is successfully launched for the ninth time from the interim-test-range in Orissa.

30 India decries the resolution passed by the Pakistan National Assembly last week asking India to protect and preserve the Babri Masjid.

— India's first indigenous advanced light helicopter prototype, produced by HAL test flies for 20 minutes.

— Seven BSF men killed by the banned People's War Group (PWG) naxalites in Karimnagar district of Andhra Pradesh.

— Seven militants of the Khalistan Commando Force (Panjwar), are among the 14 persons killed in Punjab and Haryana.

September

1 Jharkhand Mukti Morcha postpones the threatened economic blockade till 15 September, following an appeal made by Union Home Minister, S.B. Chavan.

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— Tenth Non-Aligned Summit opens in Jakarta.

— Prime Minister, P.V. Narasimha Rao discusses with the United Nations Secretary General, the possible inter-action between the world body and the NAM in the changed international situation and the question of U.N. Reforms.

— India strongly protests against reference by Pakistan Prime Minister of Kashmir issue at NAM Summit.

— Tripura government suspends state's chief secretary on charges of corruption and unauthorised activities.

2 Delhi High Court quashes the Central Bureau of Investigations criminal case against Win Chadha for his alleged involvement in the multimillion Bofors gun deal payoffs.

— Alteast 14 militants are killed and 43 others including the deputy chief commander of the Alumar Mujahideen, arrested in Kashmir valley.

— Prime Minister P.V. Narasimha Rao calls for complete Nuclear Disarmament at NAM Summit in Jakarta.

3 The three member commission of experts appointed by the Supreme Court to investigate whether construction in Ayodhya violated Allahabad High Court orders, submits its report to the apex court.

— Supreme Court dismisses petitions, challenging Madras High Court verdict, which held only merit as the basis of admissions to all medical and engineering colleges in Tamil Nadu.

— Company Affairs Department decides to initiate action against Fairgrowth Financial Services Limited and four other companies for investing in the shares of other corporate bodies beyond prescribed limit without government's approval.

— First unit of Kakarpar nuclear power station attains near Surat in Gujarat criticality.

— Madhya Pradesh Chief Minister announces creation of sixteen new districts in the state raising the strength of districts to 61.

4 Rural Development Ministry launches a scheme to provide modern tools to all traditional rural artisans living below the poverty line.

— Fortyone persons are killed and 102 injured when 332 dn Nagpur Tata passenger train rammed into a stationary goods train at Kirorimal Nagar railway station about 10 km from Rajgarh in Madhya Pradesh.

5 Chairman of the Joint Parliamentary Committee probing the multi-crore securities scam, Ram Niwas Mirdha writes to the Lok Sabha Speaker about the breach of privilege allegedly committed by the Minister of State for Finance, Rameshwar Thakur by circulating certain documents to a select group of members of the committee.

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6 Alteast seven Assam Rifles jawans are killed and twelve others, including two women injured when National Socialist Council of Nagaland activists ambush a convoy of Assam Rifles personnel at Tamei area near Irang river in Manipur's Tamenglong district.

7 Centre clears the export of an additional 70,000 tonnes of molasses from Tamil Nadu this year.

— Department of Company Affairs has drawn-up a list of atleast 30 companies to be prosecuted for delay in share transfers under Section 113 of the Companies Act.

— Twenty-six persons were killed in Andhra Pradesh when a bus fell in a road side irrigation well.

— Four hundred Mizo students were arrested while staging a dharna in Aizawal in protest against admission of non-Mizo students to MBBS course.

8 Secretary General of the Vietnamese Communist Party, Do Muoi accompanied by a 35-member delegation, arrives in New Delhi.

— Russian Deputy Prime Minister, Yegor Gaidar after talks with the visiting Indian Defence Minister Sharad Pawar, expresses the hope that despite fixancial difficulties cooperation in the field of defence technology would continue.

— On the occasion of World Literacy Day, the Education Minister of the Union Territory of Pondicherry receive UNESCO's King Sezong Award for literacy for 1992 in Seville, Spain, on behalf of the awardee the 'Pondicherry Arivolilyakkar'.

9 Alteast 93 prisoners escape from the Tenughat subdivisional jail, Bihar, of whom 16 have been rearrested so far.

— One hundred thirty two, illegal immigrants from Bangladesh living in Delhi were sent to Sealadah in West Bengal by train for deportation.

— The visiting Vietnamese Foreign Minister Ngugen Menh Can seeks India's help in setting up nuclear power stations in his country.

10 Princess Anne arrives on a six-day visit to India.

— Department of Company Affairs orders prosecutions for delay in share transfers against 28 more companies.

11 Prime Minister P.V. Narasimha Rao assures the Bihar Chief Minister Laloo Prasad Yadav that the Centre would not take any decision on the complex Jharkhand issue without taking into confidence other political parties.

— A no-confidence motion against the Sunderlal Patwa government in Madhya Pradesh moved by the opposition, Congress (I) party is defeated in the state Legislative Assembly.

12 Renowned Hindustani classical vocalist Pandit Mallikarjun Mansur, 82, passes away at his residence at Dharwad, Karnataka after a prolonged illness.

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— President Dr Shanker Dayal Sharma presents National Press India Awards to 36 persons from various fields ranging from journalism to social work.

— Jharkhand Mukti Morcha (Krishna Maradi faction) and leaders of the Jharkhand movement turn down the appeal of the Home Minister, S.B. Chavan for withdrawal of their agitation for a separate state.

— One person killed and ten others injured in Davangeve, Karnataka as the farmers agitation in protest against hike in fertilizer prices turns violent.

13 Mahendra Singh Bhatti, a Janta Dal MLA of Uttar Pradesh, was shot dead by unidentified gunman near Dadri, Ghaziabad.

— Security forces arrest 25 militants including a district chief, an area commander and a base commander of three different militant outfits in continuous mopping operations in Kashmir Valley.

14 A Nine member Committee on Medical Education has been set up by the National Development Council to submit its report within four months.

15 Government increases the prices of all petroleum products except kerosene for domestic use.

— Assam Chief Minister Hiteswar Saikia reaches an agreement with the leadership of the hill tribes for an Autonomous Council, comprising the districts of Karbi Anglong and North Kachhar.

— Sultan of Brunei, Haji Hassanal Bolkiah, world's richest man arrives in New Delhi on a four day visit to India.

— Government announces further relaxations in the investment policy for non-resident Indians by exempting transfer of shares they hold in India from provisions of Foreign Exchange Regulation Act.

— Government notifies the Electronic Hardware Technology Parks Scheme for the development of electronics industry which would enhance the export potential of the electronic industry.

— Prime Minister, P.V. Narasimha Rao meets the Vishva Hindu Parishad (VHP) leaders on the Ayodhya dispute.

16 Ten militants killed in Punjab in an encounter.

17 Supreme Court sets aside Delhi High Court's verdict quashing CBI's FIR in Bofors case.

— India and Brunei agree to exchange delegations to identify areas of mutual interest for greater cooperation.

18 Prime Minister earmarks Rs 650 crore foreign aid to Central Ganga Authority for cleaning the sacred river.

— Mohammad Hidayatullah, 87, former Vice-President and Chief Justice of India passes away in Bombay.

— Import of ammonium phosphate, a much used fertilizer is decanalised.

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19 National Development Council meets in New Delhi on 26 September, to discuss austerity measures to be adopted by the Centre and the states.

20 East Zone wins the Deodhar Trophy in cricket defeating North Zone in Visakhapatnam.

21 Bhanu Sachdeva sets a national record in the boys group-1200 metres back stroke at the Inter-school Aquatic Championship in New Delhi.

22 In London, India signs extradition treaty with Britain and also an agreement on confiscation of extremists assets, during Home Minister's visit.

— Harshad Mehta, the stock broker, freed after 111 days in custody at Bombay.

— Naxalites kill seven policemen in Gadchiroli district of Maharashtra.

23 Delhi High Court upholds the validity of the Kapoor Mittal Committee, set up by Delhi Administration to inquire into the conduct of Delhi Police officials during the November 1984 riots in the capital.

— The Cabinet Committee on Economic Affairs approves five petroleum gas and petro-chemical projects in the public sector with an investment of about Rs 9,000 crore.

— CPI leader Indrajit Gupta is conferred the first Pandit G.B.Pant Outstanding Parliamentarian award by Prime Minister Narasimha Rao in New Delhi.

— Supreme Court issues notice to all the state governments on the issue of capitation fee being charged by private medical and engineering colleges.

— Rose Millian Bathew (Kharluli) takes over as the first ever woman chair-person of Union Public Service Commission.

24 K.V.K. Sundaram, former Chief Election Commissioner passes away in New Delhi.

— The all-India conference of presiding officers in New Delhi adopts a unanimous resolution that no member of a political party should disturb or obstruct an address by the President/Governors to a joint sitting of legislatures.

— Naxalites kill 13 BSF personnel in Warangal district of Andhra Pradesh.

— Government set up a new science advisory committee headed by Prof C.N.R. Rao answerable to the Cabinet and not the Prime Minister as had been the case so far.

— Siddhartha Shankar Ray is appointed ambassador to the United States.

— The Chairman of India's Economic-Advisory Council, Bimal Jalan is elected as Executive Director of the World Bank.

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— Justice S.M. Sikri, 84, former Chief Justice of India passes away in New Delhi.

25 Orissa Chief Minister Biju Patnaik resigns from the Chairmanship of the National Austerity Committee in protest against Centre's decision to release additional dearness allowance and bonus to its employees.

— Assam Government withdraws reservation of seats in medical colleges under the Chief Minister's discretionary quota and also for the wards of Central Government employees.

— Karnataka High Court stays the sanction granted by the state government to start nine new private engineering colleges in the state.

26 Indian Airlines raises fares by nine per cent effective from 2 October 1992.

— Nine naxalites belonging to the People's War Group and two policemen were killed in an encounter in Reddypally village of Karimnagar district of Andhra Pradesh.

27 Centre sanctions a Rs 2,941 crore petro-chemical complex at Auraiya in Uttar Pradesh.

28 Standard Chartered Bank admits to the JPC probing the stock market scam that public undertakings deployed huge sums in the Bank in violation of rules.

— Standard Chartered Bank admits to the JPC that it gave an unsecured loan of Rs 15 lakh to G. Ramaswamy, Attorney General of India.

— Railways set a national record in the men's free-style 4 x 10 metre relay in Bhopal at the 48th National Swimming Championships.

29 N. Janardan Reddy, Chief Minister of Andhra Pradesh resigns.

— At least 100 people drowned when a motor-launch in which they were travelling capszied in river Godavari near Yanam, Pondicherry.

— Bandh hits normal life in the Kashmir valley, as eight persons are killed and 14 militants captured.

— Government increases rupees' value against some major currencies, for the purpose of calculating customs duty.

— Rajiv Nagpal sets a national record in the 1500 metres freestyle swimming in Bhopal.

30 Reserve Bank of India approves 221 proposals for equity investment of 241.749 million US dollars by foreign companies for the year ending 26 September 1992.

— Fierce fighting erupts between Indian security forces and Pakistani troops in Pallanwala area in Chhamb sector of Jammu and Kashmir border.

— The Security and Exchange Board of India announces investors protection norms for development of financial institutions.

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— Mohammad Azharuddin is retained as the captain of the Indian cricket team for the South Africa and Zimbabwe tours.

October

1 Jammu and Kashmir government releases 150 militants.
— Sri Lankan President Ranasinghe Premadasa arrives in New Delhi on a three day state visit.
— Bank of America admits before the JPC that it bought securities with the public sector undertakings' deposits.
— Sixteen-member Indian cricket team announced in New Delhi for the tour of Zimbabwe and South Africa.
2 All India Babri Masjid Action Committee decides to attend Ayodhya talks.
— Government to waive full monthly rental on telephones remaining out of order for more than 14 days.
— Nine persons are killed in Punjab including the deputy chief of KCF (Panjwar) Gurumukh Singh Nagoke.
3 Geat Sethi defeats Mike Russel of England in the final of the World Professional Billiards Championship in Bombay.
4 All Tripura Tribal Force extremists kill four policemen in Agartala.
— Three railway police personnel were killed by miscreants inside a train in Assam.
5 Five persons were killed and six others seriously injured when 131 up Howrah-Midnapore local ploughed through a group of people at the Ramrajtala level crossing on the Howrah-Kharagpur section of the south eastern railway.
6 Former Union Minister, Zia-ur-Rehman Ansari, 67, passes away in New Delhi.
7 Eleven persons were killed and 63 injured in a bomb-blast in a bus at Digiana near Jammu.
— Indefinite curfew is clamped and shoot at sights orders issued in Sitamarhi town (Bihar) following communal clashes.
8 Fifteen persons die and six injured in an explosion in Ahmadabad.
— Supreme Court refuses to stay the execution of Gen. Vaidya's killers.
— World Bank sanctions US dollars 500 million for modernisation and restructing of cement industry.
9 Prime Minister inaugurates first South Asian festival of SAARC countries in New Delhi.
— A 32-member Congress ministry headed by Vijaya Bhaskar Reddy takes over as the new government in Hyderabad.
— Naga and Bodo rebels kill six security men in Assam.
— Former Army Chief-General A.S. Vaidya's killers, Harjinder Singh Jinda and Sukhvinder Singh Sukha are hanged at Yerawada Central prison in Pune.

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10 Floods, landslides claim 55 lives in Kerala.

— Prime Minister inaugurates the second Hoogly bridge— Vidyasagar Setu in Calcutta.

— Sixteen insurgents including a woman of the National Liberation Front of Tripura are killed in police raids on their forest hide-outs.

— The death toll in Shillong ethnic clashes mounts to 22 as curfew continues.

11 Centre agrees to enhance the crude oil royalty for Assam and Gujarat from Rs 314 to Rs 528-metric tonne effective from 1 April 1993.

— Telecommunication link between Kashmir valley and rest of the country is restored which had been snapped by militants, setting fire to the microwave link station at Banihal.

12 Ugandan President Yoweri K. Museveni arrives in New Delhi, the first Presidential visit to India in 11 years.

— Government approves eight joint ventures for setting up and operating car telephone service in four metropolitan cities.

— Twelve militants are killed and 98 nabbed in the Kashmir Valley.

— Pargat Singh announces retirement from international hockey.

13 At least 22 passengers are killed and 70 injured when two high powered bombs exploded on the 171-up passenger train in lower Assam.

— Union Ministry of Communication gives clearance to 19 firms for operation of radio paging service in the country.

— Hamid Ansari is appointed India's permanent representative to the United Nations in New York.

— S.K. Arora is appointed ambassador to Iran.

14 India and Uganda sign a framework agreement relating to the rescheduling of repayment of past debts by Uganda to India..

15 Reserve Bank raises the credit limits to ensure proper distribution of imported fertilisers at the revised prices.

— Eleven militants including Talwinder Singh, founder of the Babbar Khalsa and the master-mind behind the Kanishka crash of 1984 are killed in Punjab.

— Eleven passengers die and 40 injured due to an explosion in a bus in Midnapore in West Bengal.

16 JPC, probing the securities scam, detects a massive fraud by Andhra Bank Financial Services Limited, a subsidiary of the Andhra Bank.

— Paramdham Ashram Paunar, Wardha (Maharashtra) is to get the Indira Gandhi award for national integration for 1992.

— National Development Council clears the small family norm for all those in elected office from Panchayat to Parliament.

17 Government announces sale of 128.7 million shares of eight Central public sector undertakings.

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— Renowned freedom fighter and close associate of Netaji Subhash Chandra Bose, Colonel Prem Kumar Saihgal, 75, passes away in New Delhi.

— Orissa Minister for Health and Family Welfare Trinath Nayak 50, passes away in Cuttack.

— Services win Federation Cup men's hockey tournament defeating Airlines in Jalandhar.

18 Thirteen militants are among 17 persons killed in Punjab violence.

19 India and Nepal agree to jointly fight terrorism in the Himalayas region.

— In the Kashmir valley, violence claims 16 lives including a security personnel and two women and police arrests 19 subversives.

20 India agrees to give a fresh package of concessions to Nepal enabling it easy access to the Indian markets.

— Rajasthan, Haryana, Delhi, Gujarat and Himachal Pradesh sign an agreement in Shimla to jointly execute the 2,051 mw Parvati hydro-elctric project.

— UK honours Dr Nirad C. Chaudhury with the title of an Honorary Commander of the British Empire.

21 Government liberalises Indian equity investment in joint venture and wholly owned subsidiaries abroad.

— Government decides to allow unrestricted import of computers.

— Government allows import of gold and some other items under Special Import Licences.

— Environment Minister Kamal Nath orders a fresh tiger census in all the 19 tiger reserves of the country.

22 Supreme Court stays proceedings of the case against Cauvery Tribunal judges in the Karnataka High Court.

— Government announces textile and garment policy for 1993.

— Armed insurgents gun down former Manipur Minister H.T. Thungam near Imphal.

— The inaugural test match between Indian and Zimbabwe ends in a draw at Harare.

23 Three Ministers and three legislators of Bihar quit in protest over the Jharkhand issue.

— Three Karnataka dissident ministers submit their resignation letters to the Governor in Bangalore.

— Himachal Pradesh imposes toll-tax (*path kar*) on transport vehicles.

— Government approves major changes in IAS examination conducted by the UPSC, including raising of total marks to 2,300, from the year 1993.

24 World Bank is to continue financing the Sardar Sarowar Projects on the river Narmada.

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— Steel Ministry frames new guidelines for setting up steel plants in the private sector.
— Arya Vidhyapeeth High School, Guwahati wins the Subroto Cup in football defeating Christ Collegiate School, Cuttack.

26 Armcane Choksi of India is appointed Vice President of Human Resources Development and Operations Policy in World Bank.
— India beat Zimbabwe by 30 runs in the one-day international at Harare.

27 Environment Minister Kamal Nath signs notification specifying standards required for papers and paints to get the 'Ecomark'.
— India regrets the Pakistan National Assembly's resolution on Kashmir and urges Islamabad to abandon its negative approach to the problem.
— Government announces changes in Gem and Jewellery Policy to make exports more competitive in the international market.
— Six policemen including a sub-inspector are killed in a mine-blast by naxalites in a village of East Godavari district in Andhra Pradesh.

28 Supreme Court upholds states' right to levy purchase tax on the value of raw materials for the manufacture of goods within the state.
— Cabinet Committee on Economic Affairs approves guidelines for the operation of National Renewal Fund.
— Deputy Speaker of the Karnataka assembly Nagamma Kesavamurthy resigns.

29 Cabinet Committee on Economic Affairs awards contracts for oil exploration to two private consortia.

30 Prime Minister P.V. Narasimha Rao announces a Rs 500 crore special assistance for infrastructural improvements for small and marginal farmers.
— Government announces an increase in the family pension for those covered under the employees provident fund.
— Bhaba Atomic Research Centre uses thorium as fuel for the first time at the Kakrapar Atomic Power Station in Gujarat.

31 Terrorists gun down 27 Bihari farm labourers in Ludhiana.
— Twenty persons are killed and 34 injured in a bomb blast in a bus on the Jammu-Pathankot national highway.
— RBI increases interest on US dollar deposits by 0.5 per cent, under the foreign currency account scheme.

November

1 A Pakistani delegation, led by Defence Secretary, arrives in New Delhi to resume the sixth round of talks on the Siachen Glacier issue after a gap of over three years.
— Asian Development Bank clears the proposal of the Ministry of Surface Transport for a loan of 285 million US dollars for the Paradip-Ennore Ports coal transportation project.

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2 Indo-Pak defence secretary level talks on Siachen begins in New Delhi.

— Union and state governments have no power to replace a member of a Commission, under the Commissions of Inquiry Act, the Supreme Court rules in the Churhat lottery case.

— Ten ministers of Maharashtra resign.

— Government eases restrictions on location of industries and announces guidelines for industrial licences.

3 Malaysia and India sign a bilateral pact in Kuala Lumpur to replace a similar 12-year old treaty, for mutual co-operation in the non-defence sector.

— The Bharat Bandh called by the BJP paralyses normal life in the party-ruled four states, but evokes partial response elsewhere.

— Chandrashekhar Dasgupta to succeed Salman Haider as India's ambassador to China.

— Veteran film-star Premnath, 66, passes away in Bombay.

4 Supreme Court grants Interim Relief for one lakh more Bhopal gas victims.

— Shanti Swarup Bhatnagar Award in 'Chemical Sciences', 1992, is awarded to Dr Sumit Bhaduri of ICI, India's Alchemie Research Centre.

5 Central Government is to take over Kalakshetra, a premier national centre for arts education.

6 Justice Lalit Mohan Sharma is to succeed Justice M.H. Kania, as the Chief Justice of India on 18 November.

7 Government approves 23 foreign investment plans recommended by the Foreign Investment Promotion Board.

— Bharatiya Jnanpith Award is presented to the Bengali poet Subhas Mukhopadhyay in Calcutta.

— Twenty five militants and a constable are killed in Punjab.

— Pakistan has turned down a proposal to allow Hindu pilgrims from India to visit the holy shrine of Shri Katsaraj.

8 India and France sign an agreement to set up and operate high speed digital communication network stations at Bombay, New Delhi and Bangalore for use by Indian software exporters.

— President Shanker Dayal Sharma presents the 1991 Bharat Shiromani Award to Mother Teresa in New Delhi.

— Prime Minister P.V. Narasimha Rao presents Bharat Ki Mahan Suputri Award to Mother Teresa in New Delhi.

9 Government decides to limit external commercial borrowings to dollars 2.5 billion a year and reduce dependence on volatiole NRI deposits to improve the balance of payments situation.

10 Attorney-General G. Ramaswamy submits his resignation to the Prime Minister, P.V. Narasimha Rao.

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— World Bank President Lewis Preston arrives in New Delhi on a five day visit.

— JCT Mills, Phagwara win the Durand Cup in football defeating the Mohammadans of Calcutta in New Delhi.

11 Karnataka Chief Minister S. Bangarappa resigns.

— India and Iran sign economic agreements worth dollars one billion and agree to raise the level of bilateral cooperation.

— Home Ministry agrees to the Tourism Department's suggestion to allow foreign tourists to visit the high-security state of Arunachal Pradesh.

— China retains the men's title and Hong Kong women claim their maiden crown in the Peerless XIth Asian Table Tennis Championships in New Delhi.

12 The new national agricultural policy approved by the Cabinet seeks to create a positive trade investment climate for agriculture at par with industry.

— Prince Akishino of Japan and his wife Princess Kiko arrives in New Delhi on a nine day goodwill mission.

— Maharashtra Congress MLA Pappu Kalani is arrested under TADA in connection with several crimes including murder.

13 The Chief Ministers' Conference on the administration of criminal justice adopts a unanimous resolution endorsing a seven-point time-bound programme on strengthening the criminal justice system.

14 Eighty three persons die as cyclone lashes Tamil Nadu and Kerala.

— Tripura Government disbands two battalions of the Tripura Armed Police comprising 2,000 policemen as the strike by non-gazetted policemen continue.

— Veteran freedom fighter, Aruna Asaf Ali receives the Nehru Award for International Understanding from the President, Dr Shanker Dayal Sharma in New Delhi.

— Supreme Court asks a eight-member committee to suggest ways within a month to arrest the fall in tigar population of Ranthambore National Park in Rajasthan.

15 France will continue to provide nuclear fuel to the Tarapur atomic power plant, inspite of the NPT issue, says a French spokesman in Paris.

— The death toll in the floods in Tamil Nadu and Kerala rises to 208.

— B. Sivanthi Adityan re-elected Indian Olympic Association President defeating Suresh Kalmadi.

16 Supreme Court upholds the constitutional validity of 27 per cent reservation in government jobs for the socially and educationally backward castes, while limiting total reservation to 50 per cent and strikes down the 10 per cent reservation for the economically weaker section of castes other than SCs, STs and SEBCs.

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— The non-gazetted police personnel of Tripura withdraw their strike following the arrest of Prabir Das Chaudhury, convener of the Joint Action Committee.

— The Centre rejects needle-exchange plan of the world bank aided three year research and surveillance project of the Indian Council of Medical Research to control AIDS among intravenous drug users in Manipur.

— One hundred plantation workers are feared killed inlandslip and flash-flood in Tamil Nadu; 45 bodies recovered so far.

17 Government decides to hold consultations with all political parties over the Supreme Court judgement on job reservation.

— Supreme Court upholds the Madhya Pradesh High Court judgement quashing the state government's action in enlarging the scope of the Churhat Lottery Inquiry Commission.

— Supreme Court upholds the right of the Union Government under the Income-tax Act to compulsorily purchase properties in urban areas at the sale prices agreed to by the owner.

— Violent student protests began in several parts of the country against the Supreme Court verdict on Mandal Commission recommendation on job reservation.

18 Madhya Pradesh government Ordinance bans the sale and purchase of all kind of lottery tickets in the state.

— Justice Lalit Mohan Sharma is sworn-in as the Chief Justice of India.

— Bihar government arrests 229 agitating homeguard Jawans.

— Prime Minister and the Bharatiya Janta Party agree to a single point reference to the Supreme Court on the Ayodhya issue under Article 143 of the Constitution.

19 Sonia Gandhi receives the Indira Gandhi Award, 1991, presented to Rajiv Gandhi (Posthumously) from the President Dr Shanker Dayal Sharma.

20 A 14-member Congress cabinet headed by M. Veerapa Moily is sworn in at Bangalore.

— Chinmaya Ghare Khan is appointed UN. Secretary General's special envoy on west Asia talks with effect from January 1993.

— Babu Mathew sets a meet record in the shot put on the final day of the all India YMCA Athletics Meet in New Delhi.

21 Two separate time bomb explosions kill 27 persons and injure 60 in Guwahati in Assam.

— Prime Minister P.V. Narasimha Rao calls for bridging north-south gap at the third summit of the group of 15 developing countries in Dakar, Senegal.

22 World Bank and the Centre grant preliminary clearance for the Rs 1,149 crore Andhra Pradesh Poverty Alleviation Project.

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— Bomb explosion by suspected Bodo extremists under the Gauranga river bridge snaps road-link between north-east and rest of the country.

— Brahmanaghar village in Maharashtra becomes all female *gram panchayat*.

23 India urges for expansion of UN Security Council at the United Nations.

— NIC meet authorises Prime Minister to take any action on Ayodhya issue.

24 Winter session of Parliament begins.

— Government appoints Milon Kumar Banerjee, as the new Attorney General of India.

— Lok Sabha passes the Citizenship (Amendment) Bill, 1992 granting citizenship to a child born to an Indian mother outside India.

25 Mamta Banerjee, Minister of State for Human Resource Development announces her resignation from the Union Cabinet at a massive rally in Calcutta.

— Bharat Heavy Electrical Limited (BHEL) commissions its first nuclear power generating unit at Kakarpara in Gujarat.

— Hari Shankar Singhania is elected president of the International Chambers of Commerce.

— Indian Airlines regain Jawaharlal Nehru Hockey title beating Border Security Force in New Delhi.

26 Three Assam assembly members belonging to the Bodo Legislative Party are arrested among others in connection with the recent bomb-explosions in the state.

— BBC's Hindi service wins Asia-Pacific Broadcasting Union Award for 1992, for its programme following the death of Rajiv Gandhi.

— Parliament approves a Bill to facilitate levying of fees for use of notified sections of national highways.

27 RBI Governor S. Venkitaramanan owns responsibility for lapses leading to the securities scam.

— Gaurav Natekar wins the men's National Lawn Tennis Championships in Jaipur, beating Vasudev Reddy, while Nirupama Vaidyanathan wins women's title beating Aarati Ponappa.

28 Supreme Court allows symbolic *Kar seva* for the Ram Temple in Ayodha and appoints a judicial officer to monitor the situation.

— Centre allows the state governments to set up their telecommunications networks.

— The Asian team wins the classic Polo Cup beating South Africa and America in the Inter-continental Round-Robin in New Delhi.

— Punjab girls win the volleyball final at the National School games in Chandigarh, beating the locals.

29 The Vector Research Centre, Pondicherry, an ICMR laboratory develops THROMBINASE, a drug that dissolves blood clots in just half an hour, against the internationally available drugs taking 12 hours.

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— Kashmiri militants gundown Krishna Prasad, a Superintendent of Police and his bodyguard in Hyderabad.

30 Government clears 22 foreign direct investment proposals worth Rs 44.9 crore.

— India strikes two golds, a silver and a bronze on the opening day of the Fourth Asian Juniors Athletics Championship in New Delhi.

— Mohan Bagan defeats JCT, Phagwara to win the Rovers Cup in football for thirteenth time in Bombay.

— The second cricket test between India and South Africa ends in a draw in Johannesburg.

December

1 Punjab militants kill 16 bus passengers belonging to a particular community in a bus, in Jagraon.

— Freedom fighter and member of the Indian National Army Manu Dev Shastri, 88, passes away in New Delhi.

2 Indian girls' quartet in the 4×100 meter relay sets a new meet record on the third day of the Asian Junior Athletics Championships in New Delhi.

— Twenty nine militants are killed in separate encounters in Punjab.

4 RBI sacks Bank of Madura Chairman and Chief Executive Officer S.P. Sabapathy, for alleged irregularities in the securities transactions.

6 *Kar Sevaks* demolish the disputed structure at Ayodhya, state Chief Minister Kalyan Singh resigns, taking moral responsibility.

— President's rule is imposed in Uttar Pradesh, Kalyan Singh ministry dismissed and the state assembly dissolved.

— Army is put on alert in seven states, curfew clamped in parts of Uttar Pradesh and security beefed up in several places in the country in the wake of developments in Ayodhya.

— Supreme Court refuses to order the reconstruction of the three domes of the Ram temple-Babri Masjid structure in Ayodhya.

— Dr Amrita Patel, Prof Surajit K. Datta and Dr M.V. Rao are selected for the Borlaug Award.

— Prime Minister P.V. Narasimha Rao addresses the nation appealing for peace and harmony.

7 About 225 people are killed and 1000 injured in nationwide communal violence following the demolition of the disputed sturcture at Ayodhya.

— Hindus and their temples come under Muslim attack in Pakistan, Bangladesh, Dubai and United Kingdom.

— District Magistrate of Faizabad, R.N. Srivastava and Senior Superientendent of Police D.B. Rai are suspended.

— Bharatiya Janata Party leader, L.K. Advani resigns as the Leader of the Opposition in the Lok Sabha.

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— Supreme Court decides to initiate criminal contempt of court proceedings against the former UP Chief Minister and five senior IAS officers for their role in Ayodhya happenings.

— Shanti Swarup Bhatnagar awards for excellence in science and technology for 1992 presented to 11 scientists in New Delhi.

— The Government issues a new textiles order, which envisages delicensing of textiles industry in keeping with the macro-industrial liberalisation policies.

— United States regain the Davis Cup in lawn tennis at Fort Worth.

8 L.K. Advani, Dr Murli Manohar Joshi, Uma Bharati, Ashok Singhal, Vishnu Hari Dalmia and Vinay Katiyar are among the BJP and VHP leaders arrested in connection with Ayodhya happenings.

— Bharat Bandh called by the National Front-Left Parties and Muslim organisations and supported by the Congress (I) evokes partial response, as violence claims 265 more lives in different parts of the country.

9. Both the Houses of Parliament adjourned till 16 December.

— Bharat Bandh called by BJP to protest against the arrest of its senior leaders evokes mixed response across the country.

— Indian Airlines pilots go on strike.

10 Government bans the RSS, the VHP, the Bajrang Dal, the Jamaite-e-Islami Hind and the Islami Sewak Sangh.

— Akbarpur Court remands the arrested BJP and VHP leaders to judicial custody till 17 December.

11 Lucknow Bench of the Allahabad High Court quashes the state government notification acquiring the 2.77 acre land in Ayodhya.

— The situation in most states shows signs of improvement even as violence claims 121 more lives.

— Government clears a pension scheme estimated to benefit about 1.6 crore employees in both the organised and unorganised sectors.

— Namdhari XI win the Sanjay Gandhi Memorial Hockey tournament beating Border Security Force in New Delhi.

12 RBI and the Securities and Exchange Board of India grant approval to six more foreign institutional investors.

— The much delayed installation of the 17.4 meter high Budha statue in the Hussainsagar lake in Hyderabad takes place.

13 Centre decides to appoint a commission of inquiry to probe the demolition of the disputed structure in Ayodhya.

— Government orders the CBI to investigate into the demolition of the disputed structure in Ayodhya.

— Police seals RSS headquarters in Nagpur (Maharashtra) and puts its supremo Bala Saheb Deoras under house arrest.

— Supreme Court directs that no judge of district courts throughout the country will be retired before the age of 60 till further orders.

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15 Centre dismisses the three BJP governments of Himachal Pradesh, Rajasthan and Madhya Pradesh and imposes President's Rule in those states.

— Asian Development Bank approves a 300 million US dollars loan as fast disbursing balance of payment assistance to India.

— A collision between a train and three buses kill 20 people and injures 60 near Muradabad in UP.

— South Africa defeats India by eight wickets to clinch the one-day series by 4-1

16 Parliament adopts a Government-sponsored resolution 'condemning the demolition of the Babri Masjid at Ayodhya' and expressing determination to uphold the secular and democratic traditions of the country.

— Over 4,540 activists of the five banned organisations RSS, VHP, Bajrang Dal, Jammat-E-Islaami and ISS have been arrested nationwide.

— 'Bharat Bandh' called by the BJP to protest against the dismissal of its governments in three states evokes mixed response.

— Centre announces the Commission of Inquiry to probe 6 December incidents in Ayodhya.

— The Russian first Deputy Prime Minister Vladimir Shumeiko is appointed co-chairman of the joint Indo-Russian commission on trade, economic, scientific and technical cooperation.

17 The BJP tables a no-confidence motion against the government in the Lok Sabha.

— Supreme Court upholds the validity of the FIR filed by the CBI against former Bofors agent, Win Chaddha.

— A three-judge committee found the Supreme Court judge, Justice V. Ramaswami, guilty of serious financial irregularities and recommended his removal.

— Pakistan expels three Indian High Commission staffers, accusing them of 'indulging in activities incompatible with their functions and mission in Pakistan'.

— S. Africa beat India in the sixth one-day international by 39 runs at Durban.

18 Supreme Court summons the former Uttar Pradesh Chief Minister and six senior state officers to appear before it on 19 January to defend themselves for contempt of court.

— UP government constitutes a special court of judicial magistrate first class to try L.K. Advani and other arrested leaders.

— The International Development Association, a World Bank affiliate approves a 906 million US dollars credit to India for the social safety net programme and reforms.

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19 Centre releases Rs 45,315 crore as advance from the calamity relief fund to Uttar Pradesh for relief, rehabilitation and reconstruction activities in the quake hit Garhwal division.

— Madhya Pradesh government announces an administrative inquiry into the recent riots in Bhopal which claimed 117 lives.

— India beat South Africa in the seventh day-night cricket match in Buffalo.

21 Lok Sabha rejects by 334 votes to 106, the BJP sponsored no-confidence motion against the P.V. Narasimha Rao Government.

— Rajya Sabha approves imposition of President's rule in Uttar Pradesh, Madhya Pradesh, Rajasthan and Himachal Pradesh.

— Chakravarti Rangarajan takes over as Governor of the RBI.

22 Lok Sabha passes unanimously the Constitutional 72nd and 73rd Amendment Bills relating to Panchayati Raj and Nagarpalikas.

— A no-confidence motion against the Hiteswar Saikia government in Assam is defeated.

23 Verma Commission of Inquiry indicts the Centre, Tamil Nadu police, Intelligence Bureau and the Congress (I) for various lapses that led to the assassination of Rajiv Gandhi.

— Lok Sabha approves the promulgation of President's Rule in Uttar Pradesh, Madhya Pradesh, Rajasthan and Himachal Pradesh.

— Rajya Sabha passes the Panchayati Raj and Nagarpalika Bills.

— Both houses of Parliament adjourned *sine die* after three week session.

— Election Commission derecognises the Badal, Maan and Longowal Akali Dals and the Bahujan Samaj Party.

— Madhya Pradesh government institutes a judicial inquiry into the recent communal disturbances.

— Four All Tripura Tribal Force rebels, including its self-styled home minister, Krishnasadhan Jamatiya are arrested in south Tripura.

— No-confidence motion against Bhajan Lal ministry in Haryana is defeated.

24 Union Cabinet approves a package of relief measures amounting to Rs 25 crore to the victims of November 1984 riots.

— Well-known Hindi literateur Govind Chandra Pande is selected for the first 'Shankar Puraskar' for the year 1992 for his book "Bhartiya Parampara Ke Mool Swar".

25 At least 2,855 persons including local leaders of BJP are arrested at Faizabad and 234 at Ayodhya, while demanding *darshan* of Ram Lalla.

— Government disinvests 31.06 crore shares of 12 public sector companies for Rs 1183.83 crore.

— Union Finance Ministry imposes dollers 1 billion ceiling on annual foreign exchange borrowing for private sector power projects.

26 Nearly 1000 *sadhus* are arrested in Ayodhya for taking out a procession towards the disputed complex.

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27 Central Government decides to acquire all the disputed areas in Ayodhya. Two trusts are to be set up for the construction of a temple and a mosque. The package includes single point reference to Supreme Court on temple.

— Faizabad administration decides to allow *darshan* of Ram Lalla at the makeshift temple in Ayodhya.

— Authors of twentyone books have been selected for the 1992 Sahitya Akademi awards.

— Senior Congress leader and former minister B. Basavalingappa, 68, passes away in Bangalore.

28 Darshan of the idol of Ram Lalla in Ayodhya begins.

29 Pakistan asks India to reduce drastrically the strength of the Indian consulate-general in Karachi.

— BJP delegation led by Atal Behari Vajpayee submits a memorandum to the President Dr Shanker Dayal Sharma, asking for early midterm election to Lok Sabha.

— Tamil Nadu Government finalises investment proposals worth Rs 250 crore for developing the infrastructure at Tiruppur.

— South Africa beat India by nine wickets at Port Elizabeth to win the third cricket test.

31 India rejects as "unacceptable" Pakistan's demand to cut down Indian consular presence in Karachi.

— A.N. Shukla takes over as the Chairman of the Railway Board.

— Babbar Khalsa deputy chief Inderjit Singh Sakhira alongwith his four accomplices, involved in more than 500 killings, are killed in an encounter with police in Punjab.

January (1993)

1 The Lucknow Bench of the Allahabad High Court allows *darshan* at the Ram Janambhoomi in Ayodhya from a safe distance.

2 The Election Commission announces that elections would be held on 15 February to three state assemblies of Meghalaya, Nagaland and Tripura and by-elections to three parliamentary and 13 assembly constituencies in eight states.

— A Coast Guard plane carrying six of its staff members crashes in the Bay of Bengal near Talchuaon about 80 km from Cuttack.

3 Dr. Pratibha Ray gets Bharatiya Jnanpith's prestigious ninth Moortidevi Award for her Oriya novel '*Yajnaseni*'.

4 India and Pakistan exchange their lists of nuclear installations for the second consecutive year.

— The Biju Patnaik cabinet in Orissa is reshuffled with the promotion of three ministers to cabinet rank.

— Well-known Hindi and Gujarati film producer Ibrahim Nadiadwala, 55, passes away in Bombay.

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5 The Centre constitutes two tribunals to adjudicate the ban on the five 'unlawful' bodies.

6 Government bans trading of eight chloro fluoro carbons with non-signatory countries of the Montreal Protocol.

— South Africa wins the friendship series against India with the draw of the fourth and final cricket test in Capetown.

7 Government increases the procurement prices of *rabi* crops for 1992-93 marketing season.

— Maharashtra Governor C. Subramaniam resigns.

— The President Dr Shanker Dayal Sharma promulgates an Ordinance acquiring 67.703 acres of land in and around Ram Janambhoomi-Babri Masjid complex at Ayodhya.

— At least 20 persons are killed and over 50 injured in communal violence in Bombay.

— Union Minister of State for Human Resources Development Mamta Banerjee is arrested at Calcutta.

8 Central Ordinance amends the Foreign Exchange Regulation Act, 1973 to remove various restrictions on FERA companies.

— Dr. P.C. Alexander is appointed Governor of Maharashtra.

— About 38 people killed in various incidents of communal violence in Bombay.

— About 22 killed and over 150 injured in communal violence in Gujarat.

— Twelve ministers of Biju Patnaik Ministry in Orissa resign.

— Incheon University of South Korea wins the DCM Cup in football beating East Bengal in New Delhi.

9 Russia-built TU-154 operating on Hyderabad-Delhi sector with 165 passengers and crew members crash-lands at New Delhi airport.

— Civil Aviation and Tourism Minister Madhavrao Scindia resigns following the crash-landing.

— Bombay communal violence toll rises to 92. The state government authorises the Army to shoot-at-sight.

10 All the six top VHP and BJP leaders arrested after the demolition of Babri Masjid are ordered to be released unconditionally by the Court.

— India asks Pakistan to reduce the strength of the staff at its New Delhi High Commission from 150 to 110 by February.

— Swami Agnivesh is appointed member of the Board of trustees of the United Nations Trust Fund on Contemporary Forms of Slavery.

11 Bombay riots toll crosses 200.

— The Election Commission postpones all the three Lok Sabha and nine assembly by-elections in eight states at the request of the Centre.

12 Violence engulfs Bombay suburbs. Toll nears 500.

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— Sunil Dutt, the Congress MP from Bombay North-West constituency, resigns from Lok Sabha.

13 Jagraon sub-divisional magistrate orders release of Prakash Singh Badal and Simranjeet Singh Mann and their 26 followers.

— India objects to the resolution adopted by bureau of the Organisations of Islamic Conference on Ayodhya.

— Malaysia unilaterally suspends crude supplies to India.

14 The Supreme Court gives clean chit to the Union Railway Minister C.K. Jaffar Sharief in the wagon deal.

— Jammu and Kashmir government announces a judicial inquiry into the 6 January firing in Sopore, in which 40 people were killed.

— Tansen Award for *Hindustani* music was jointly awarded to Pandit Sharad Chandra Arolkar and Pandit Ram Rao Naik.

15 The Election Commission grants recognition to the Ajit Singh group of the Janata Dal as a national party as a 'purely ad-hoc and interim arrangement'.

— Prime Minister Narasimha Rao on his visit to the riot-hit areas in Bombay, announces Rs 1 crore for relief and rehabilitation of riot victims.

16 All Union Ministers, present in the capital, submit their resignation to the prime Minister P V Narasimha Rao.

— Maharashtra Chief Minister announces a judicial inquiry into recent Bombay riots.

17 Prime Minister P V Narasimha Rao reshuffles his cabinet with 14 ministers each dropped and inducted.

— The fasting former Prime Minister V P Singh is arrested and admitted in a hospital at Bombay.

— Freedom fighter and former member of Parliament Raghevendrarao Diwan passes away at pune.

18 Reserve Bank of India announces a package including Rs 1000 crore credit support to industrial and agricultural sectors.

— Prime Minister P V Narasimha Rao allocates portfolios to his colleagues

— The Government announces a special package to attract NRI investment in housing and real estate ventures.

— World Bank sanctions Rs 76 crore for the Yamuna Action Plan in Haryana.

— England beats India in the first one-day cricket match at Jaipur.

19 Former UP Chief Minister Kalyan Singh and six senior IAS officers appear before the Supreme Court in a contempt case for their failure to protect the Babri mosque.

— Four Union ministers-of-state are sworn-in by the President Dr Shanker Dayal Sharma.

— Centre extends International Price Reimbursement Scheme for two more years from April 1993.

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— Election Commission announces by-election to three parliamentary and 14 assembly constituencies to be held in first week of April.

20 Orissa Chief Minister Biju Patnaik drops four senior cabinet ministers on the charge of "disloyalty to the state".

— Karnataka Ministry is expanded with the induction of 6 cabinet and 19 ministers of state, strength of Veerappa Moily Ministry rose to 40.

— Former Bihar Chief Minister Bindeswari Dubey passes away following cardiac arrest in Madras.

21 India wins the second one-day international at Chandigarh beating England by five wickets.

22 The hijacker of an Indian Airlines Delhi bound plane with 48 passengers surrenders after the intervention of Atal Behari Vajpayee at Lucknow airport.

— India rejects the Bangladesh pariliament resolution criticising the demolition of Babri Masjid as a "totally unacceptably interference in your internal affairs".

— Reserve bank of India issues a detailed 16-point guidelines for new private sector banks in the country.

23 Government decides not to give the highest civilian awards this year on the Republic Day, in view of court cases.

— British Prime Minister John Major arrives in New Delhi on a six-day state visit.

24 Indian Airlines pilots call off their 45-day old strike following an assurance by Union Minister for Civil Aviation and Tourism

— Britain's Overseas Development Administration announces 90 million pound sterling new aid grants to India.

25 President Dr Shanker Dayal Sharma calls for stamping out communalism in his address to the nation on the eve of the Republic Day.

— The visiting British premier urges India and Pakistan to solve the Kashmir issue by mutual dialogue.

26 The nation celebrates the 44th Republic Day; British Premier John Major is the chief guest at the Republic Day parade in New Delhi.

27 Militants gun down DIG of police K S Vyas in Hyderabad.

— Himachal Pradesh Governor Virendra Verma resigns.

— A N Madani, leader of the banned Islamic Sewak Sangh surrenders before the police in Thiruvananthapuram.

— Russian President Boris Yeltsin arrives in New Delhi on a three-day visit.

— Justice M N Venkatachalaiah is to succeed Justice L M Sharma as the Chief Justice of India.

28 India and Russia resolve the rupee-rouble parity issue.

— India and Russia sign three commercial agreements.

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— Indian Merchants' Chamber sings a memorandum of understanding with the Chamber of Commerce and Industry of Romania for improving mutual economic and commercial ties.

— Mizoram Governor Swaraj Kaushal and Yagya Dutt Sharma his Orissa counterpart resign.

29 A Swiss court orders the release of details of bank accounts in Switzerland holding kickback payments from Swedish arms firm AB Bofors.

— L t. Governor of Poundicerry Dr. Har Swarup Singh resigns.

30 People's War Group militants kidnap one member of the Andhra Pradesh Legislative Assembly and six government officials near Koyyuru in Visakhapatnam district.

— Eminent Russian painter Dr Syvatoslav Roerich, 89 passes away in Bangalore.

31 The Army, police and paramilitary forces are deployed in Assam to launch an offensive against the outlawed united Liberation Front of Assam.

— Government appoints four new secretaries in various Central ministries and a new Director General for the Indo-Tibetan Border Police

February

1 Union Government abolishes Octroi in Delhi from 31 January 1993.

— The Union Cabinet decides to convert the Oil and Natural Gas Commission into a public limited company under the Companies Act.

— Dr. Har Swarup Singh, is appointed India's High Commissioner to Maldives.

2 India wins the first cricket test beating England by eight wickets in Calcutta.

— India and Malaysia sign a defence- related memorandum of understanding in Kuala Lumpur.

— Activists of the banned National Socialist Council of Nagaland gun down nine persons including six CRPF jawans in Manipur.

3 Human Resource Development Minister Arjun Singh resigns from the Cabinet sub-committee on Ayodhya white paper.

— Indian troops recover the largest ever consignment of arms near the line of control in north-west area of Kashmir valley.

— Two Congress MPs and four legislators of Andhra Pradesh resign over the state Government's handling of the abductions.

— Democratic People's Republic of Korea (North Korea) wins Nehru Cup football defeating Romania in Madras.

4 Supreme Court uphold the validity of the 26th Constitution Amendment abolishing Privy Purses.

— India decides to temporarily shut down its embassy in Kabul.

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— Pakistan wins Asian Junior Squash team title beating India 3-0 in the finals in Singapore.

5 Supreme Court directs Central Government to produce before it the Speaker of the Manipur Legislative Assembly Dr H Singh on 23 March.

— Bali Ram Bhagat and P R Kyndiah are appointed Governors of Himachal Pradesh and Mizoram respectively.

— Security forces arrest Asia Andrabi, chief of the Dukhtaran-i-Millat and her husband a leader of the Jammat-e-Mujahideen in Srinagar.

6 Shiv Sena MLA Madhukar Sarpotdar is arrested under the National Security Act in Bombay.

— Zeeshan Ali and Nirupama Vaidyanathan win the Men's and Ladies' National Lawn Tennis Championships respectively in Jorhat (Assam).

7 The tenth launch of the medium-range surface-to-surface missile "*Prithvi*" is successfully carried out from Chandipur in Orissa.

— The Spanish Prime Minister Felipe Gonzales arrives in New Delhi on a four day visit.

8 India and Spain sign four agreements on mutual cooperation against terrorism, avoidance of double taxation and a cultural exchange programme for 1993-95.

— Dr Jorge Flores Valdes of Mexico and Dr Peter Akinsola Okebukola of Nigeria are presented the Kalinga Award for 1992 in New Delhi.

9 Government liberalises baggage rules by slashing customs duty from 225 per cent to 150 per cent on 35 items and permits import of silver upto 100 kg per passenger on payment of duty.

— The Supreme Court dismisses the former Bofors agent Wins Chadha's petition challenging the rule 166-A(B) of the Code of Criminal Procedure.

— Freedom fighter and SJP leader and MLC Rajmandal Mishra, 75 passes away at Patna.

10 India and Singapore commence a four-day joint naval exercise off the coast of the Andaman Islands in the Andaman Seas.

11 Union Government bans the proposed BJP rally in New Delhi on 25 February 1993.

— Supreme Court dismisses petitions by two Congress leaders, K N Singh and Kailash Yadav seeking a ban on the proposed BJP rally in New Delhi on 25 February 1993.

— Four of the six hostages held by the People's War Group are released from the Koyyuru jungles in Visakhapatnam district of Andhra Pradesh.

— Veteran writer, producer and director Kamal Amrohi, 76 passes away at Bombay.

12 Election Commission postpones the Tripura assembly elections from 15 February to 3 April on grounds of deteriorating law and order situation.

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— Maharashtra Chief Minister Sudhakarrao Naik sacks six members of his ministry.
— Justice M N Venkatachaliah is sworn-in as the Chief Justice of India.
— Government announces new baggage rules.

13 At least 20 students and teachers are killed and about 50 injured when a school building collapsed in Moradabad (Uttar Pradesh).
— Government further liberalises the charter flights policy for attracting tourists from the SAARC countries.
— Government serves dismissal notice on Lt General N P S Bal, Director-General Rashtriya Rifles for graft.

14 Tajikistan Prime Minister Abdumalik Abdullojanov arrives in New Delhi on a three-day visit.

15 India wins the test series by defeating England in the second cricket test at Madras.
— Seventy per cent voters cast their votes in the elections to the 60-member assemblies of Meghalaya and Nagaland.

16 Government decides to decanalise the import of kerosene, LPG and low sulphur heavy stock, a variant of fuel oil and allows their import by the private sector.
— Government announces 20 per cent increase in retail price of sugar sold through the public distribution system network.
— The Chief Electoral Officer of Tripura orders an enquiry against the Union Minister of State for Steel, Santosh Mohan Dev for allegedly holding a meeting with the presiding and polling officers.
— Prof U R Anantamurty is elected Chairman of the Sahitya Akademi.
— India and Nepal sign three letters of exchange in Kathamandu to boost trade and transit between the two countries.
— Maharashtra Government distributes Rs.11 crore aid among riot victims.
— Tripura police arrests Sikkim PCC President, Subba in Agartala for alleged involvement in multi-crore lottery scam.
— Four top terrorists of Bhindranwale Tiger Force were nabbed in New Delhi.

17 The Government promulgates the 'gold bond' ordinance providing certain immunities.
— Sahitya Academy awards for 1992 are presented.
— Government further liberalises baggage rules for Indians working abroad.

18 Government signs Memoranda of Understandings with the private sector for investment of over Rs 2,300 crore in the food processing sector.
— German Chancellor Dr Helmut Kohl arrives in New Delhi on a five day state visit.

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19 A five-member Congress Ministry headed by Salsong C Marak is sworn-in in Meghalaya.

— India signs agreement with Germany for Rs 155 crore loan.

— India and Italy sign a revised convention for avoidance of double taxation in specific areas.

— German Chancellor, Dr Helmut Kohl is conferred the 1990 Jawaharlal Nehru Award for International Understanding by President Dr Shanker Dayal Sharma in New Delhi.

20 The Bodo leaders of Assam sign an agreement in Guwahati with the State Government and the Centre accepting the proposal for creation of an autonomous council within Assam.

— S C Jamir is elected the Congress Legislative Party leader in Nagaland.

— India and Germany sign an agreement for a Rs 7000 crore lignite power project to be set up in Tamil Nadu by a consortium of Indian and German companies.

— Indian Space Research Organisation successfully launches two experimental Rohini-560 rockets from Sriharikota.

22 Sudhakarrao Naik resigns as the Chief Minister of Maharashtra.

— A nine-member cabinet led by S C Jamir is sworn-in in Nagaland.

— The Budget Session of Parliament begins with the President's customary address to the joint sitting of both houses.

— Welfare Ministry constitutes a three-member expert committee to identify the economically better-off among the backward classes.

— Andhra Pradesh Legislative Assembly revokes the suspension of 57 Telugu Desham Party members.

— Prime Minister P V Narasimha Rao reject offer of resignation of Sunil Dutt from Lok Sabha.

— Former Chief Minister of Haryana, Bhagwat Dayal Sharma, 73 passes away at New Delhi.

23 India makes clean sweep of the three test cricket series by defeating England by an innings and 15 runs in the final test match in Bombay.

— Andhra Pradesh state Excise Minister Kanumoori Bapiraju resigns over the issue of approving 24 distilleries and breweries.

— Karnataka Youth Services and Sports Minister Premchandra Sagar resigns.

24 The Railway Budget proposes 10-15 per cent hike in both freight rates and passenger fare.

— Election Commission announces elections to the Panyam and Rayachoti Assembly constituencies in Andhra Pradesh to be held on 3 April and to four other parliamentary and 20 Assembly seats in the second half of May 1993.

— Tamil novelist S.Rangarajan and radio broadcaster Dilip Mayngbam from Imphal are to share this year's national award for science popularisation.

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25 Uttar Pradesh earmarks Rs 435 crore for the second phase of the Ganga Action Plan.
— People's War Group leader Kranti Renadive is released from the Visakhapatnam jail.
— Rajiv Gandhi Foundation UK is launched under the patronage of Prince Charles in London.
— Nirad Chaudhury, writer, journalist and commentator receives an honorary CBE award for services to British national life.
27 The General Budget 1993-94 introduces full convertibility of rupee.
— Finance Minister Dr Manmohan Singh announces a massive 62 per cent hike in the outlay for rural development in 1993-94.
— Government simplifies and restructures the central excise duty exemption scheme for the small scale sector.
28 Chief of the Bhindrawale Tiger Force of Khalistan Gurbachan Singh Manochahal is killed in Rataul, Amritsar.
— Bajrang Dal leader Vinay Katiyar is detained under the National Security Act in New Delhi.
— Reserve Bank of India allows all authorised dealers to release foreign exchange for higher studies abroad.

March

1 India's main battle Tank Arjun is launched.
— England wins the one-day international cricket match played at Jamshedpur beating India by six wickets.
— J S Bedi takes over as the Chief of the Research and Analysis Wing.
— Veteran freedom fighter Yashpal Kapoor, 64, passes away at Bombay.
2 Over 100 militants surrender in Punjab.
— India develops the phased array radar (PAR), which makes the *'Akash'* missile deadly.
— Kerala retains the Santosh Trophy defeating Maharashtra at the 49th National Football Championships at Cochin.
— Railways retain the senior women's national hockey title for the ninth time in a row defeating Punjab in Jalandhar.
— Former Union Minister Karan Singh is nominated member of the UNESCO International Commission on Education for the 21st century.
— Well-known Bengali playback singer of yesteryears Smt Bansari Lihiri, 63, passes away at Bombay.
3 All BJP members of Gujarat Legislative Assembly except the leader of the opposition are suspended for three day.
— Railways win Rangaswamy Cup in the National Hockey Championship beating Services in Bikaner.

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4 India beats England in the one-day international cricket match played at Gwalior.

— The fifth World Print Congress concludes in New Delhi.

5 Government allows private sector investment in mining sector.

— India defeats England in the last one-day international cricket match played at Gwalior levelling the one-day series.

6 Sharad Pawar led 27 member ministry takes over in Maharashtra as the new government.

7 Eleven Bodo ultras surrender to the Union Minister of State for Home Rajesh Pilot in Debargaon (Assam).

8 PWG ultras set ablaze an Andhra Pradesh state transport bus in Kavuru village in which 14 passengers were burnt alive.

— Thirteen pilgrims die in a stampede in a *Gurudwara* in Una district of Himachal Pradesh

— Industrialist Jay Dayal Dalmia, 89, passes away in Delhi.

9 Lok Sabha Speaker Shivraj Patil permits the JPC inquiring into the securities scam to examine ministers and MPs.

— Nagaland ministry is expanded by inducting five more cabinet ministers and six ministers of State.

— Bharatiya Vidya Bhavan opens a new centre in Manchester for promoting Indian culture in England.

— Hari Shankar Shinghania, President of the International Chamber of Commerce, is awarded the Business Leadership award in Madras.

10 Assam Chief Minister reshuffles his council of Ministers by inducting eight new faces and dropping five.

— Tripura Governor K V Raghunatha Reddy recommends President's rule in Tripura following resignation of the caretaker ministry headed by Samir Ranjan Burman.

— Trilochan Singh of Railways sets a national record in the 4 kms individual pursuit at the 47th Senior National Cycling Championship at New Delhi.

11 Government appoints Gen. (retd.) K.V. Krishna Rao as Governor of Jammu and Kashmir, incumbent Girish Chandra Saxena submits his resignation.

— Election Commission formulates a scheme of special enumeration procedure for intensive revision of electoral rolls in areas having substantial presence of foreign nationals.

— Tripura comes under President's Rule.

— India and Armenia sign an agreement on trade and economic cooperation in New Delhi.

— Fulbirth of Railways sets a national record in the one km time trial in cycling at the 47th Senior National Cycling Championships at New Delhi.

12 Over 250 people are killed and over 1100 injured in a series of 13 bomb blasts in crowded multi storeyed buildings and five-star hotels in Bombay.

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— World Bank grants 12 million US dollars aid to the Central institute of Plastics Engineering and Technology, Madras.
— Gen.(retd.) K.V. Krishna Rao takes over as the Governor of Jammu and Kashmir.
— Dr S.V.Singh and DR R.H Priplani are awarded the sixth SAARC award for outstanding research related to meteorology.
— Punjab creates a national record in the 1600 m team trial in cycling in New Delhi.

13 World Bank sanctions Rs 22 crore for the reconstruction works in Uttarkashi.
— Asiatic society awards President Dr. Shanker Dayal Sharma with Indira Gandhi gold medal for National Integration Calcutta.
— Railways and Manipur respectively win the men's and women's team titles at the 47th senior National Cycling Championship in New Delhi.

14 Authorities seek help of the Interpol for the investigation of the Bombay-blasts as one of the prime accused Yakub Memon, fled the country.

15 India and Oman sign a memorandum of understanding in Manama for construction of a gas pipeline to India.
— Kirpal Singh of Railways clinches his third consecutive 165 Km mass start national crown at the 47th National Senior Cycling Championships in New Delhi.
— Eight sportspersons are selected for Arjuna Awards.
— India and Czech Republic sign an agreement to promote trade between the two countries on a long term basis.
— Chintamani Panigrahi resign as Manipur Governor.

16 A powerful bomb blast at Bowbazar in Calcutta kills 25 and injures an unspecified number.
— Government accepts expert committee's recommendations on creamy layer among the other backward classes for exclusion from job reservation.
— Government announces introduction of a new pension scheme for workers subscribing to the Employees Provident Fund from April 1993.
— India and the Association of South East Asian Nations (ASEAN) agree to boost their trade and economic relations.
— India and Czechoslovakia sign a pact for mutual Most-favoured Nation (MFN) status in New Delhi.

17 Jharkhand agitators blow up rail lines causing derailment of a passenger train and paralysing movement of bauxite from Lohardagga.
— Government sets aside Rs31 crore for the National Credit Fund to assist deprived rural women to set up their own enterprises.

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— Sulphuric acid leak near Thane kills 10 and affects 53 others.

— India and Canada sign a memorandum of understanding under which Canada will extend commodity assistance of around Rs 46 crore for the Tree Growers Cooperative Project in India.

— India decides to set up a fund under the Indian Technical and Economic Cooperation to develop cooperation programmes with ASEAN in the fields of tourism, trade, investment, computers and informatics, solar energy and environmental protection.

— India defeats Zimbabwe by an innings and thirteen runs in one-off test at New Delhi.

19 Union Cabinet approves a proposal for raising subsidy limit for the Integrated Rural Development Programme beneficiaries.

— Environment audit statements in the industrial sector will form a part of the Companies Act and the companies annual reports.

— India and Moldova sign six agreements in New Delhi to promote Cooperation in the fields of trade, economic cooperation, education, science, culture arts, media, sports, tourism and youth affairs.

— India beat Zimbabwe by 67 runs in the first of the three one-day international cricket matches in Faridabad (Haryana).

— Maj Ramprasad Podar, 79, doyen of the country's textile industry passes away at Bombay.

20 Naxalite leader and founder of the People's War Group, Kondapalli Seetharamaiah arrested.

— Foreign Investment Promotion Board clears two power projects, one in Andhra Pradesh and the other in Orissa.

— Bharati Singh creates several national records in 75 kg weight category at the 8th Senior Women National Weight-lifting Championship in Eluru (AP).

— Raytheon, a US company and the National Airport Authority of India sign 106 million US dollar contract for modernisation of Bombay and Delhi airports.

21 A broad agreement has been reached between the Centre and the representatives of the 14-party Jharkhand Rajya Sarvadaliya Sangharsh Samiti on the formation of a Jharkhand Swashashi Kshetra (Jharkhand autonomous territory).

— Railways and Punjab retain the men's and women's team championships at the 45th Senior National Weight-lifting Championships in Eluru (AP).

22 Chief Election Commissioner TN Seshan sacks Chief Electoral Officer of Tripura.

— Rajya Sabha passes the National Commission on Backward Classes Bill by voice vote.

— India beat Zimbabwe by seven wickets in the second one-day cricket international at Guwahati.

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23 At least 47 people are killed and 47 injured when a bus fell on the dry bed of the Barakar, near Dhanbad.

— Dr H Borebabu Singh, Speaker of the Manipur Legislative Assembly appears before the Supreme Court. All contempt proceedings against him are dropped.

— Coal India Limited decides to start a programme for extinguishing the seven-decade-old fires under the Jharia coal fields with World Bank credit.

— Ministry of Science and Technology of the Russian Federation and the Delhi State Industrial Development Corporation sign a Memorandum of Understanding for transfer of technology and research and dissemination of information, in New Delhi.

— Lok Sabha passes a Bill to remove restrictions on foreign investments.

— Home Secretary Dr Madhav Godbole seeks voluntary retirement.

24 Lok Sabha approves legislation providing for acquisition of land around the disputed Ram Janamabhoomi-Babri Masjid complex in Ayodhya.

— Supreme Court allows the blind to take the civil services examination.

25 Centre announces two schemes for direct import of gold of 18 carats and above for the benefit of the exporting units situated in domestic tariff area (DTA).

— India beat Zimbabwe in the third and final one-day cricket international match by eight wickets at Pune.

— Noted Hindi film producer Panalal Maheshwari, 75, passes away at Thane.

26 Bombay police seize nearly 1500 kgs of explosives most of it RDX from a vacant flat at Mumbra near Bombay.

— World Bank announces a 350 million US dollars loan for the development of a power-grid system in India.

— Government approves rehabilitation of the fire-ravaged Semiconductor Complex Ltd. (SCL) in Chandigarh at an estimated cost of Rs 315 crore.

— Orissa Government signs a Memorandum of Understanding with Spectrum technology of the US for setting up a 500MW thermal power project at Talcher.

— Finance Ministry abolishes the 'rural levy' charged by the Department of Telecommunications from MTNL and VSNL.

27 Government allows private sector mining in 13 non-coal minerals.

— Hijacker of the Indian Airlines flight, IC-439 on the Delhi-Hyderabad-Madras sector surrenders in Amritsar.

— Ranjit Singh the main accused in the Nirankari head Baba Gurbachan Singh murder case is sentenced for life imprisonment.

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28 Starvation death toll in Orissa rises to 130, with reports of fresh deaths coming in.

— India qualify for the Davis Cup quarter-final in Tennis, by defeating Switzerland in Calcutta.

29 Border Security Force, Jalandhar wins the 18th Indira Gold Cup in hockey defeating Punjab and Sind Bank at Jammu.

30 India cancels the rest of the World Bank loan amounting to $ 170 million for the Narmada Project .

— Asian Development Bank approves loans worth 300 million US dollars for a gas project in India.

— The Aurangabad Bench of the Bombay High Court unseats sitting MP Yeshwant Rao Gadakh from South Ahmednagar and declares the petitioner Balasaheb Vikhe Patil, elected.

— The Supreme Court quashes two permissions granted in 1987 by the then Ramakrishna Hegde's Government in Karnataka for the sale of land in the heart of Bangalore city to a builders firm.

— Punjab wins the Ranji Trophy in cricket defeating Maharashtra in Ludhiana.

— Praveen Thipsey wins National 'A' Chess Championship for the sixth time.

31 Supreme Court upholds the disqualification of Goa Chief Minister Ravi S Naik and his two cabinet colleagues under the anti-defection law.

— The Commerce Ministry introduces a new export scheme for the services sector and deletes 144 items from the negative list of exports in the revised Export-Import Policy for 1992-97.

— NCERT awards 21 teacher educators for outstanding innovations.

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31 General Information

TABLE OF PRECEDENCE
(Published on 26 July 1979)

1. President.
2. Vice President.
3. Prime Minister.
4. Governors of States within their respective states.
5. Former Presidents.

5A. Deputy Prime Minister.

6. Chief Justice of India.
   Speaker of the Lok Sabha.
7. Cabinet Ministers of the Union.
   Chief Ministers of states within their respective states.
   Deputy Chairman, Planning Commission.
   Former Prime Ministers.
   Leaders of Opposition in Rajya Sabha and the Lok Sabha.

7A. Holders of Bharat Ratna decoration.

8. Ambassadors Extraordinary and Plenipotentiary and High Commisioners of Commonwealth countries accredited to India. Chief Ministers of states outside their respective states.
   Governors of states outside their respective states.
9. Judges of Supreme Court.
10. Deputy Chairman, Rajya Sabha.
    Deputy Chief Ministers of States.
    Deputy Speaker, Lok Sabha.
    Members of Planning Commission.
    Ministers of State of the Union and any other Minister in the Ministry of Defence for defence matters.
11. Attorney General of India.
    Cabinet Secretary.
    Chief Election Commissioner.
    Comptroller and Auditor-General of India.
    Lieutenant Governors within their respective union territories.
12. Chiefs of Staff holding the rank of full General or equivalent rank.
13. Envoys Extraordinary and Ministers Plenipotentiary accredited to India.
14. Chairmen and Speakers of state legislatures within their respective states.
    Chief justice of High Courts within their respective jurisdictions.
15. Cabinet Ministers in states within their respective states.
    Chief Ministers of union territories and Chief Executive Councillor, Delhi, within their respective union territories. Deputy Ministers of the Union.
16. Officiating Chiefs of Staff holding the rank of Lieutenant General or equivalent rank.
17. Chairman, Central Administrative Tribunal.
    Chairman, Minorities Commission.
    Chairman, Scheduled Castes and Scheduled Tribes Commission.
    Chairman, Union Public Service Commission.
    Chief Justices of High Courts outside their respective jurisdictions.
    Puisne Judges of High Courts within their respective jurisdictions.
18. Cabinet Ministers in states outside their respective states.

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Chairmen and Speakers of state legislatures outside their respective states.
Chairman, Monopolies and Restrictive Trade Practices Commission.
Deputy Chairmen and Deputy Speakers of state legislatures within their respective states.
Ministers of State in states within their respective states.
Ministers of union territories and
Executive Councillors, Delhi, within their respective union territories.
Speakers of legislative assemblies in union territories and
Chairman of Delhi Metropolitan Council within their respective union territories.

19. Chief Commissioners of union territories not having Councils of Ministers, within their respective union territories. Deputy Ministers in States within their respective States Deputy Speakers of Legislative Assemblies in union territores and Deputy Chairman of Metropolitan Council Delhi, within their respective union territories.

20. Deputy Chairmen and Deputy Speakers of state legislatures, outside their respective states.
Ministers of State in states, outside their respective states.
Puisne Judges of High Courts outside their respective jurisdictions.

21. Members of Parliament.

22. Deputy Ministers in states, outside their respective states.

23. Army Commanders/Vice Chief of the Army Staff or equivalent in other services.
Chief Secretaries to state governments within their respective states.
Commissioner for Linguistic Minorities.
Commissioner for Scheduled Castes and Scheduled Tribes.
Members, Minorities Commission.
Members, Scheduled Castes and Scheduled Tribes Commission.
Officers of the rank of full General or equivalent rank.
Secretaries to the Government of India (including officers holding this office ex-officio).
Secretary, Minorities Commission.
Secretary, Scheduled Castes and Scheduled Tribes Commission.
Secretary to the President.
Secretary to the Prime Minister.
Secretary, Rajya Sabha, Lok Sabha.
Solicitor General.
Vice Chairman, Central Administrative Tribunal.

24. Officers of the rank of Lieutenant General or equivalent rank.

25. Additional Secretaries to the Government of India.
Additional Solicitor General.
Advocate Generals of states.
Chairman, Tariff Commission.
Charge d'Affairs and Acting High Commissioners a pied and ad interim.
Chief Ministers of union territories and Chief Executive Councillor, Delhi, outside their respective union territories.
Chief Secretaries of state governments outside their respective states.
Deputy Comptroller and Auditor General.
Deputy Speakers of legislative assemblies in union territories and Deputy Chairman, Delhi Metropolitan Council, outside their respective union territores.
Director, Central Bureau of Investigation.
Director General, Border Security Force.
Director General, Central Reserve Police.
Director, Intelligence Bureau.
Lieutenant Governors outside their respective union territories.
Members, Central Administrative Tribunals.
Members, Monopolies and Restrictive Trade Practices Commission.
Members, Union Public Service Commission.
Ministers of union territories and Executive Councillor, Delhi, outside their respective union territories.

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Principal Staff Officers of the Armed Forces of the rank of Major General or equivalent rank.

Speakers of legislative assemblies in union territories and Chairman of Delhi Metropolitan Council, outside their respective union territories.

26. Joint Secretaries to the Government of India and officers of equivalent rank. Officers of the rank of Major General or equivalent rank.

PRESIDENTS OF INDIA

Name	*Tenure*
Dr. Rajendra Prasad (1884-1963)	6 January 1950-13 May 1962
Dr. Sarvepalli Radhakrishnan (1888-1975)	13 May 1962-13 May 1967
Dr. Zakir Husain (1897-1969)	13 May 1967-3 May 1969
Varahagiri Venkatagiri (1884-1980)	3 May 1969-20 July 1969 (Acting)
Justice Mohammad Hidayatullah. (1905-1992)	20 July 1969-21 August 1969 (Acting)
Varahagiri Venkatagiri	24 August 1969-24 August 1974
Fakhruddin Ali Ahmed (1905-1977)	24 August 1974-11 February 1977
B.D. Jatti (b-1913)	11 February 1977-25 July 1977 (Acting)
Neelam Sanjiva Reddy (b-1913)	25 July 1977-25 July 1982
Giani Zail Singh. (b-1916)	25 July 1982-25 July 1987
R. Venkataraman (b-1910)	25 July 1987-25 July 1992
Dr. Shanker Dayal Sharma (b-1918)	25 July 1992-Till Date

VICE-PRESIDENTS OF INDIA

Name	*Tenure*
Dr. Sarvepalli Radhakrishnan (1888-1975)	1952-1962
Dr. Zakir Husain (1897-1969)	1962-1967
Varahagiri Venkatagiri (1884-1980)	1967-1969
Gopal Swarup Pathak (1886-1982)	1969-1974
B.D. Jatti (b-1913)	1974-1979
Justice Mohammad Hidayatullah (1905-1992)	1979-1984
R. Venkataraman (b-1910)	1984-1987
Dr. Shanker Dayal Sharma (b-1918)	1987-1992
K. R. Narayanan (b-1920)	1992-till date

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PRIME MINISTERS OF INDIA

Name	*Tenure*
Jawahar Lal Nehru (1889-1964)	15 August 1947-27 May 1964
Gulzari Lal Nanda (b-1898)	27 May 1964-9 June 1964 (Acting)
Lal Bahadur Shastri (1904-1966)	9 June 1964-11 January 1966
Gulzari Lal Nanda (b-1898)	11 January 1966-24 January 1966 (Acting)
Indira Gandhi (1917-1984)	24 January 1966-24 March 1977
Morarji Desai (b-1896)	24 March 1977-28 July 1979
Charan Singh (1902-1987)	28 July 1979-14 January 1980
Indira Gandhi (1917-1984)	14 January 1980-31 October 1984
Rajiv Gandhi (1944-1991)	31 October 1984-1 December 1989
Vishwanath Pratap Singh (b-1931)	2 December 1989-10 November 1990
Chandra Shekhar (b-1927)	10 November 1990-21 June 1991
P.V. Narasimha Rao (b-1921)	21 June 1991-Till date

CHIEF JUSTICES OF INDIA

Name	*Tenure*
Harilal J. Kania	26 January 1950-6 November 1951
M.Patanjali Sastri	7 November 1951-3 January 1954
Mehar Chand Mahajan	4 January 1954-22 December 1954
B.K. Mukherjea	23 December 1954-31 January 1956
S.R. Das	1 February 1956-30 September 1959
Bhuvaneshwar Prasad Sinha	1 October 1959-31 January 1964
P.B. Gajendragadkar	1 February 1964-15 March 1966
A.K. Sarkar	16 March 1966-26 June 1966
K. Subba Rao	30 June 1966-11 April 1967
K.N. Wanchoo	12 April 1967-24 February 1968
M. Hidayatullah	25 February 1968-16 December 1970
J.C. Shah	17 December 1970-21 January 1971
S.M. Sikri	22 January 1971-25 April 1973
A.N. Ray	26 April 1973-27 January 1977
M.H. Beg	28 January 1977-21 February 1978
Y.V. Chandrachud	22 February 1978-11 July 1985
Prafullachandra Natvarlal Bhagwati	12 July 1985-20 December 1986
R.S. Pathak	21 December 1986-18 June 1989
E.S. Venkataramiah	19 June 1989-18 December 1989
S. Mukharjee	19 December 1989-25 September 1990
Ranganath Mishra	26 September 1990-24 November 1991
K.N. Singh	25 November 1991-12 December 1991
M.H. Kania	13 December 1991-17 November 1992
L.M. Sharma	18 November 1992-11 February 1993
M.N. Venkatachaliah	12 February 1993-till date

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CHIEF ELECTION COMMISSIONERS OF INDIA

Name	*Tenure*
Sukumar Sen	21 March 1950-19 December 1958
K.V.K. Sundaram	20 December 1958-30 September 1967
S.P. Sen Verma	1 October 1967-30 September 1972
Dr. Nagendra Singh	1 October 1972-6 February 1973
T. Swaminathan	7 February 1973-17 June 1977
S.L. Shakdhar	18 June 1977-17 June 1982
R.K. Trivedi	18 June 1982-31 December 1985
R.K.S. Peri Sastri	1 January 1986-25 November 1990
Smt. V.S. Ramadevi	26 November 1990-11 December 1990
T.N. Seshan	12 December 1990-Till date

RECIPIENTS OF BHARAT RATNA

Name	*Awarded in*
Dr. Sarvepalli Radhakrishnan (1888-1975)	1954
Chakravarti Rajagopalachari (1878-1972)	1954
Dr. Chandrasekhar Venkat Raman (1888-1970)	1954
Dr. Bhagwan Das (1869-1958)	1955
Dr. Mokshagundam Visvesvaraya (1861-1962)	1955
Jawaharlal Nehru (1889-1964)	1955
Govind Ballabh Pant (1887-1961)	1957
Dr. Dhondo Keshave Karve (1858-1962)	1958
Dr. Bidhan Chandra Roy (1882-1962)	1961
Purushottam Das Tandon (1882-1962)	1961
Dr. Rajendra Prasad (1884-1963)	1962
Dr. Jakir Husain (1987-1969)	1963
Dr. Pandurang Vaman Kane (1880-1972)	1963
Lal Bahadur Shastri (Posthumous) (1904-1966)	1966
Indira Gandhi (1917-1984)	1971
Varahagiri Venkatagiri (1894-1980)	1975
Kumaraswami Kamraj (Posthumous) (1903-1975)	1976
Mary Teresa Bojaxhiu (Mother Teresa) (b-1910)	1980
Acharya Vinoba Bhave (Posthumous) (1895-1982)	1983
Khan Abdul Ghaffar Khan (1890-1988)	1987
Marudu Gopalan Ramachandran (Posthumous) (1917-1987)	1988
Dr. Bhim Rao Ramji Ambedkar (Posthumous) (1891-1956)	1990
Dr. Nelson Rolihlahla Mandela (b-1918)	1990
Rajiv Gandhi (Posthumous) (1944-1991)	1991
Sardar Vallabhbhai Patel (Posthumous) (1875-1950)	1991
Morarji Ranchhodji Desai (b-1896)	1991
Maulana Abul Kalam Azad (1888-1958)	1992
Jehangir Ratanji Dadabhai Tata (b-1929)	1992
Satyajit Ray (1922-1992)	1992

COMMANDERS-IN-CHIEF

Name	*Tenure*
General Sir Roy Bucher	1 January 1948-14 January 1949
General (now Field Marshal)K.M. Cariappa	15 January 1949-14 January 1953
General Maharaj Rajendra Sinhji	15 January 1953-31 March 1955

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CHIEFS OF ARMY STAFF

Name	*Tenure*
General Maharaj Rajendra Sinhji	1 April 1955-14 May 1955
General S.M. Srinagesh	15 May 1955-7 May 1957
General K.S. Thimayya	8 May 1957-7 May 1961
General R.N. Thapar	8 May 1961-19 November 1962
General J.N. Choudhuri	20 November 1962-7 June 1966
General P.P. Kumaramangalam	8 June 1966-7 June 1969
General S.H.F.J. Manekshaw	8 June 1969-31 December 1972
Field Marshal S.H.F.J. Manekshaw	1 January 1973-14 January 1973
General G.G. Bewoor	15 January 1973-31 May 1975
General T.N. Raina	1 June 1975-31 May 1978
General O.P. Malhotra	1 June 1978-31 May 1981
General K.V. Krishna Rao	1 June 1981-31 July 1983
General A.S. Vaidya	1 August 1983-31 January 1986
General K. Sunderji	1 February 1986-30 April 1988
General V.N. Sharma	1 May 1988-30 June 1990
General S.F. Rodrigues	1 July 1990-30 June 1993
General B.C. Joshi	1 July 1993-till date

CHIEFS OF NAVAL STAFF

Name	*Tenure*
Vice Admiral R.D. Katari	22 April 1958-4 June 1962
Vice Admiral B.S. Soman	5 June 1962-3 March 1966
Admiral A.K. Chatterjee	4 March 1966-27 February 1970
Admiral S.M. Nanda	1 March 1970-28 February 1973
Admiral S.N. Kohli	1 March 1973-28 February 1976
Admiral J.L. Cursetji	1 March 1976-28 February 1979
Admiral R.L. Pereira	1 March 1979-28 February 1982
Admiral O.S. Dawson	1 March 1982-30 November 1984
Admiral R.H. Tahiliani	1 December 1984-30 November 1987
Admiral J.G. Nadkarni	1 December 1987-30 November 1990
Admiral Ramdas	1 December 1990-30 September 1993
Admiral V.S. Shekhawat	1 October 1993 till date

CHIEFS OF AIR STAFF

Name	*Tenure*
Air Marshal Sir Thomas Elmhinst	15 August 1947-21 February 1950
Air Marshal Sir Ronald Lvelaw Chapnam	22 February 1950-9 December 1951
Air Marshal Sir Gerald Gibbs	10 December 1951-31 March 1954
Air Marshal S. Mukherjee	1 April 1954-8 November 1960
Air Marshal A.M. Engineer	1 December 1960-31 July 1964
Air Chief Marshal Arjan Singh	1 August 1964-15 July 1969
Air Chief Marshal P.C. Lal	16 July 1969-15 Januray 1973
Air Chief Marshal O.P. Mehra	16 January 1973-31 January 1976
Air Chief Marshal H. Moolgavkar	1 February 1976-31 August 1978
Air Chief Marshal I.H. Latif	1 September 1978-31 August 1981
Air Chief Marshal Dilbagh Singh	1 Sepetember 1981-3 September 1984
Air Chief Marshal L.M. Katre	4 September 1984-1 July 1985
Air Chief Marshal DA La Fontaine	3 July 1985-31 July 1988
Air Chief Marshal S.K. Mehra	1 August 1988-31 July 1991
Air Chief Marshal N.C. Suri	1 August 1991 31 July 1993
Air Chief Marshal S.K. Kaul	1 August 1993- Till date

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WINNERS OF PARAM VIR CHAKRA

Major Somnath Sharma Kumaon Regiment
Posthumous-November 1947 (Kashmir Operations 1947-48)

2nd Lt. R.R. Rane, Corps of Engineers
April 1948 (Kashmir Operations 1947-48)

Company Havildar Major Piru Singh, Rajputana Rifles
Posthumous-July 1948 (Kashmir Operations 1947-48)

L/NK Karam Singh, Sikh Regiment
October 1948 (Kashmir Operations 1947-48)

Naik Jadunath Singh, Rajput Regiment
Posthumous-December 1948 (Kashmir Operations 1947-48)

Captain Gurbachan Singh Salaria, Gorkha Rifles
Posthumous-December 1961 (Congo)

Major Dhan Singh Thapa, Gorkha Rifles
October 1962 (Ladakh)

Subedar Joginder Singh, Sikh Regiment
Posthumous-October 1962 (NEFA)

Major Shaitan Singh, Kumaon Regiment
Posthumous-November 1962 (Ladakh)

Comb. Abdul Hamid, Grenadiers
Posthumous-September 1965 (Operation against Pakistan)

Lt. Col. A.B. Tarapore, Poona Horse
Posthumous-September 1965 (Operation against Pakistan)

Flg. Officer Nirmal Jit Singh Sekhon, Flg. Pilot
Posthumous-December 1971 (Indo-Pakistan Conflict)

Major Hoshiar Singh, Grenadiers
December 1971 (Indo-Pakistan Conflict)

2/Lt. Arun Khetarpal, 17 Poona Horse
Posthumous-December 1971 (Indo-Pakistan Conflict)

L/NK Albert Ekka, Brigade of the Guards
Posthumous-December 1971 (Indo-Pakistan Conflict)

Naib Subedar Bana Singh, J and K Light Infantry,
June 1987 (Operations in Siachen Glacier)

Major Ramaswamy Parameswaran, Mahar Regiment
Posthumous-November 1987-(IPKF Operations in Sri Lanka)

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HEIGHT OF SOME IMPORTANT INDIAN PEAKS

Peak	*Height in metre above Mean Sea Level*
1. K2	8,611 In Pak-occupied territory
2. Kanchenjunga	8,598
3. Nanga Parbat	8,126
4. Gasher Brum	8,068 In Pak-occupied territory
5. Broad Peak	8,047 -do-
6. Disteghil Sar	7,885 -do-
7. Masher Brum E	7,821
8. Nanda Devi	7,817
9. Masher Brum W	7,806 In Pak-occupied territory
10. Rakaposhi	7,788 -do-
11. Kamet	7,756
12. Saser Kangri	7,672
13. Skyang Kangri	7,544 In Pak-occupied territory
14. Sia Kangri	7,422 -do-
15. Chaukhamba (Badrinath Peak)	7,138
16. Trisul West	7,138
17. Nunkun	7,135
18. Pauhunri	7,128
19. Kangto	7,090
20. Dunagiri	7,066

LENGTH OF SOME IMPORTANT INDIAN RIVERS

River	*Length (km)*
1. Indus	2,900
2. Brahmaputra	2,900
3. Ganga	2,510
4. Godavari	1,450
5. Narmada	1,290
6. Krishna	1,290
7. Mahanadi	890
8. Kaveri	760

NATIONAL HIGHWAYS AND THEIR LENGTHS

National Highway No.	Route	State through which passing and length (km)
1. 1	Delhi-Ambala-Jalandhar-Delhi-Amritsar-Indo-Pak Border	Delhi (22), Haryana (180), Punjab (254); Total 456
2. 1 A	Jalandhar-Madhopur-Jammu-Banihal-Srinagar-Baramula-Uri	Punjab (108), Himachal Pradesh (14), Jammu and Kashmir (54); Total 663
3. 1 B	Batote-Doda-Kishtwar	Jammu and Kashmir (107); Total 107
4 2	Delhi-Mathura-Agra-Kanpur Allahabad-Varanasi-Mohania-Barhi-Palsit-Baidyabad-Bara-Calcutta	Delhi (19), Haryana (74), Uttar Pradesh (770),Bihar (392), West Bengal(235); Total 1,490
5 3	Agra-Gwalior-Shivpuri-Indore-Dhule-Nasik-Thane-Bombay	Uttar Pradesh (26), Rajasthan (32), Madhya Pradesh (712) Maharashtra (391); Total 1,161

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National Highway No.			Route	State through which passing and length (km)
6	4		Junction with National Highway No.3 near Thane-Pune-Belgaum-Hubli-Bangalore-Ranipet-Madras	Maharashtra (371), Karnataka (658), Andhra Pradesh. (83), Tamil Nadu (123); Total 1,235
7	4	A	Belgaum-Anmod-Ponda-Panaji	Karnataka (82), Goa (71); Total 153
8	4	B	Nhava Sheva-Kalamboli-Palspe	Maharashtra (27); Total 27
9	5		Junction with National Highway No.6 near Baharagora-Cuttack-Bhubaneshwar-Vishakhapatnam Vijayawada-Madras	Orissa (488), Andhra Pradesh (1,000), Tamil Nadu (45); Total 1,533
10	5	A	Junction with National Highway No.6 near Haridaspur-Paradip Port	Orissa (77); Total 77
11	6		Dhule-Nagpur-Raipur-Sambalpur-Baharagora-Calcutta	Maharashtra (686), Madhya Pradesh (314), Orissa (462), Bihar (22), West Bengal (161); Total 1,645
12	7		Varanasi-Mangawan-Rewa-Jabalpur-Lakhnadon-Nagpur-Hyderabad-Kurnool-Bangalore-Krishnagiri Salem-Dindigul-Madurai-Cape Comorin (Kanniyakumari)	Uttar Pradesh (128), Madhya Pradesh (504), Maharashtra (232), Andhra Pradesh (753), Karnataka (125), Tamil Nadu (627); Total 2,369
13	7	A	Palyankotta-Tuticorin Port	Tamil Nadu (51), Total 51
14	8		Delhi_Jaipur-Ajmer-Udaipur-Ahmadabad-Vadodara-Bombay	Delhi (13), Haryana (101), Rajasthan (688), Gujarat (498), Maharashtra (128); Total 1,428
15	8	A	Ahmadabad-Limbdi-Morvi-Kandla	Gujarat (378); Total 378
16	8	B	Bamanbore-Rajkot-Porbander	Gujarat (206); Total 206
17	8	C	Chiloda-Gandhinagar-Sarkhej	Gujarat (46); Total 46
18	9		Pune-Sholapur-Hyderabad-Vijayawada	Maharashtra (336), Karnataka (75), Andhra Pradesh (380); Total 791
19	10		Delhi-Fazilka-Indo-Pak border	Delhi (18), Haryana (313), Punjab (72); Total 403
20	11		Agra-Jaipur-Bikaner	Uttar Pradesh (51), Rajasthan (531); Total 582
21	11	A	Dausa-Manoharpur	Rajasthan (64); Total 64
22	12		Jabalpur-Bhopal_Khilchipur-Aklera-Jhalawar-Kota-Bundi-Devli-Tonk-Jaipur	Madhya Pradesh (490), Rajasthan (400); Total 890
23	13		Sholapur-Chitradurga	Maharashtra (43), Karnataka (448); Total 491
24	14		Beawar-Sirohi-Radhanpur	Rajasthan (310), Gujarat (140); Total 450
25	15		Pathankot-Amritsar-Bhatinda-Ganganagar-Bikaner-Jaisalmer-Barmer-Samakhiali (near Kandla)	Punjab (350), Rajasthan (906), Gujarat (270); Total 1, 526
26	16		Nizamabad-Mancherel-Jagadalpur	Andhra Pradesh (220), Maharashtra (30), Madhya Pradesh (210); Total 460
27	17		Panvel-Mahad-Panaji-Karwar Mangalore-Cannanore-Calicut-(Kozhikode)-Ferokh-Kuttipuram-Pudu Ponnani-Chowghat-Cranganur-Junction with National Highway No. 47 near Edapally.	Maharashtra (482), Goa (139) Karnataka (280), Kerala (368); Total 1,269

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National Highway No.		Route	State through which passing and length (km)
28	17 A	Junction with National Highway No. 7 near Cortalin-Marmugao	Goa (19); Total 19
29	20	Pathankot-Mandi	Punjab (10), Himachal Pradesh (210); Total 220
30	21	Junction with National Highway No.22 near Chandigarh-Ropar-Bilaspur-Mandi-Kullu-Manali	Chandigarh (24), Punjab (67), Himachal Pradesh (232); Total 323
31	22	Ambala-Kalka-Shimla-Narkanda-Rampur-Chini-Indo-Tibet border near Shipkila	Haryana (30), Punjab (31),Himachal Pradesh (398); Total 459
32	23	Chas-Ranchi-Rourkela-Talcher Junction with National Highway No.42	Bihar (250),Orrissa (209); Total 459
33	24	Delhi-Bareilly-Lucknow	Delhi (8), Uttar Pradesh (430); Total 438
34	25	Lucknow-Kanpur-Jhansi-Shivpuri	Uttar Pradesh (237), Madhya Pradesh (82); Total 319
35	26	Jhansi-Lakhnadon	Uttar Pradesh (128), Madhya Pradesh (268); Total 396
36	27 A	Allahabad-Mangawan	Uttar Pradesh (43), Madhya Pradesh (50); Total 93
37	28	Junction with National Highway No. 31 Near Barauni-Muzaffarpur-Piara Gorakhpur-Lucknow	Bihar (259), Uttar Pradesh (311); Total 570
38	28 A	Junction with National Highway No. 28 near Pipra-Sagauli-Raxaul-Indo Nepal border	Bihar (68); Total 68
39	29	Gorakhpur-Ghazipur-Varanasi	Uttar Pradesh (196); Total 196
40	30	Junction with National Highway No.2 near Mohania-Patna-Bakhtivarpur	Bihar (230); Total 230
41	31	Junction with National Highway No.2 near Barhi-Bakhtivapur-Mokameh-Purne-Dalkola-Siliguri-Sivok-Cooch-Behar-North Salmara-Nalbari-Charali Amingaon Junction with National Highway No.37	Bihar (437), West Bengal (366), Assam (322); Total 1, 125
42	31 A	Sivok-Gangtok	West Bengal (30), Sikkim (62); Total 92
43	31 B	North Salmara-Junction with National Highway No. 37 near Jogigopa	Assam (19); Total 19
44	31 C	Near Calgalia-Baghdogra-Chalsa-Nagrakata-Goverkata-Dalgaon-Hasimara-Rajabhat-Khawa-Kochugoan-Sidili Junction with National Highway No. 31 near Bijni	West Bengal (142), Assam (93); Total 235
45	32	Junction with National Highway No.2 near Gobindpur-Dhanbad-Jamshedpur	Bihar (107), West Bengal (72), Total 179
46	33	Junction with National Highway No. 2 near Barhi-Ranchi Junction with National Highway No. 6 near Baharagora	Bihar (352); Tatal 352
47	34	Junction with National Highway No. 31 near Dalkola-Berhampore-Barasat-Calcutta	West Bengal (443); Total 443
48	35	Barasat-Bangaon-Indo-Bangladesh Border	West Bengal (61); Total 61

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National Highway No.		Route	State through which passing and length (km)
49	36	Nowgong-Debaka-Dimapur (Manipur Road)	Assam (167), Nagaland (3); Total 170
50	37	Junction with National Highway No. 31 B near Goalpara-Guwahati-Jorabat-Kamargaon-Mukum-Saikhoaghat	Assam (680); Total 680
51	37 A	Kuarital-Junction with National Highway No. 52 near Tezpur	Assam (23); Total 23
52	38	Mukum-Ledo-Lekhapani	Assam (54); Total 54
53	39	Namaligarh-Imphal-Palel-Indo Burma Border	Assam (115), Nagaland (110) Manipur (211); Total 436
54	40	Jorabat-Shillong-Indo-Bangladesh border near Dawki.	Meghalaya (161); Total 161
55	41	Junction with National Highway No.6 near Kolaghat-Haldia Port	West Bengal (51); Total 51
56	42	Junction with National Highway No. 6 near Sambalpur-Angul Junction with National Highway No. 5 near Cuttack	Orissa (261); Total 261
57	43	Raipur_Vizianagarm Junction with National Highway No. 5	Madhya Pradesh (316), Orrissa (152), Andhra Pradesh (83); Total 551
58	44	Shillong-Passi Badarpur-Agartala	Meghalaya (184), Assam (111), Tripura (200); Total 495
59	45	Madras-Tiruchirapalli-Dindigul	Tamil Nadu (387); Total 387
60	45 A	Link to Pondicherry (Villupuram-Pondicherry)	Tamil Nadu (17), Pondicherry (23); Total 40
61	46	Krishnagiri-Ranipet	Tamil Nadu (132): Total 132
62	47	Salem-Coimbatore-Trichur-Ernakulam-Trivandrum-Cape Comorin (Kannyakumari)	Tamil Nadu (224),Kerala (416); Total 640
63	47 A	Junction with National Highway No. 47 Willington Island	Kerala (6); Total 6
64	48	Bangalore-Hassan-Mangalore	Karnataka (328); Total 328
65	49	Cochin-Madurai-Dhanushkodi	Tamil Nadu (290), Kerala (150); Total 440
66	50	Nasik-Junction with National Highway No. 4 near Pune	Maharashtra (192); Total 192
67	51	Paikan-Tura-Dalu	Assam (22), Maghalaya (127); Total 149
68	52	Baihata Charali-Tezpur-Bander Dewa-North Lakhimpur-Pasighat-Teza-Sitapani Junction with National Highway No. 37 near Saikhoaghat	Assam (540), Arunachal Pradesh (310); Total 850
69	52 A	Bander Dewa-Itanagar	Assam (5), Arunachal Pradesh (20); Total 25
70	53	Junction with National Highway No. 44 near Badarpur-Jirighat-Imphal-Salchar	Assam (100), Manipur (220); Total 320
71	54	Silchar-Aizawl-Tuipang	Assam (45), Mizoram (515); Total 560
72	54 A	Therial-Lunglei	Mizoram (9); Total 9
73	54 B	Venus Saddle Saiha	Mizoram (27); Total 27

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National Highway No.		Route	State through which passing and length (km)
74	55	Siliguri-Darjeeling	West Bengal (77); Total 77
75	56	Lucknow-Varanasi	Uttar Pradesh (285); Total 285
76	NEI	Ahmadabad-Vadodara	Gujarat (93); Total 93
77	18	Junction with National Highway No. 7 near Kurnool-Nandyal-Cuddapah-Junction with National Highway No. 4 near Chittoor.	Andhra Pradesh (369)
		Total Length	34,058 Km

IMPORTANT LONG DISTANCE TRAINS

	Number and Name	Pairs of Stations between which it runs	Distance (km) approximately
	BROAD GAUGE TRAINS		
1.	6017/6018 Himsagar Express	Kanniyakumari-Jummu Tawi (Weekly)	3,726
2.	6321/6322 Express	Guwahati-Trivandrum (Weekly)	3,574
3.	6313/6314 Express	Cochin-Guwahati (Weekly)	3,362
4.	2625/2626 Kerala Express	New Delhi-Trivandrum	3,054
5.	6519/6520 Express	Bangalore-Guwahati (Weekly)	3,016
6.	5011/5012 Raptisagar Express	Gorakhpur-Cochin (Bi-weekly)	2,998
7.	6333/6334 Express	Rajkot-Trivandrum (Weekly)	2,734
8.	5645/5646 Express	Dadar-Guwahati (Bi-weekly)	2,510
9.	2627/2628 Karnataka Express	New Delhi-Bangalore	2,444
10.	6043/6044 Express	Madras-Patna (Weekly)	2,139
11.	2615/2616 GT Express	New Delhi-Madras	2,190
12.	2621/2622 T.N. Express	New Delhi-Madras	2,190
13.	1081/1082 Express	Bombay VT-Kanniyakumari	2,150
14.	2971/2972 Express	Jammu Tawi-Bombay Central (4 days a week)	1,970
15.	2859/2860 Gitanjali Express	Howrah-Bombay VT	2,187
16.	2373/2374 Himgiri Express	Howrah-Jammu Tawi (Tri-weekly)	1,967
17.	5621/5622 N.E. Express	New Delhi-Guwahati	1,926
18.	2903/2904 Frontier Mail	Bombay Central-Amritsar.	1,900
19.	7491/7492 Express	Tirupathi-Varanasi (Bi-weekly)	2,100
20.	2925/2926 Paschim Express	Bombay Central-Amritsar	1,831
21.	2815/2816 Express	New Delhi-Puri (4 days a week)	1,787
22.	6635/6636 Netravati Express	Kurla-Cochin/Mangalore (Daily)	1,852/2,032
23.	2311/2312 Kalka Mail	Howrah-Kalka	1,709
24.	2723/2724 A.P. Express	New Delhi-Secunderabad	1,666
25.	2841/2842 Coromandal Express	Howrah-Madras	1,663
26.	2301/2302 Rajdhani Express	New Delhi-Howrah (Daily)	1,441
27.	2951/2952 Rajdhani Express	New Delhi-Bombay Central (Daily)	1,384
28.	2997/2998 Express	Jammu Tawi-Hapa (Weekly)	2,008
29.	1065/1066 Ratnagiri Express	Bombay VT-Varanasi (Tri-weekly)	1,509
30.	6093/6094 Express	Madras-Lucknow (Bi weekly)	2,071
31.	5089/5090 Express	Gorakhpur-Hyderabad (Bi-weekly)	1,830
32.	6511/6512 Express	Dadar-Madras	1,270
33.	7017/7018 Express	Hyderabad-Rajkot	1,474
34.	2981/2982 Sarvodaya Express	Jammu Tawi-Ahmadabad (Weekly)	1,682
35.	2119/2120 Konark Express	Bhubaneshwar-Secunderabad	1,144
36.	2587/2588 Express	Jammu Tawi-Gorakhpur (Tri-weekly)	1,270
37.	8079/8080 Express	Tirupathi-Howrah	1,619
38.	2133/2134 Pushpak Express	Bombay VT-Lucknow	1,420
39.	2391/2392 Magadh Express	New Delhi-Patna	992

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	Number and Name	Pairs of Stations between which it runs	Distance (km) approximately
40.	4067/4068 Malwa Express	New Delhi-Indore	969
41.	2557/2558 Kanchenjunga Express	Howrah-Guwahati	991
42.	2101/2102 Minar Express	Bombay VT—Secunderabad	800
43.	2417/2418 Prayagraj Express	New Delhi-Allahabad	627
44.	2419/2420 Gomti Express	New Delhi-Lucknow (6 days a week)	507
45.	2179/2180 Taj Express	Nizamuddin-Gwalior	317
46.	2639/2640 Brindavan Express	Madras-Bangalore	362
47.	2497/2498 Shane-e-Punjab Express	Amritsar-New Delhi	447
48.	4095/4096 Himalayan Queen	New Delhi-Kalka	272
49.	1007/1008 Deccan Express	Bombay VT-Pune	191
50.	2123/2124 Deccan Queen	Bombay VT-Pune	191
51.	9021/9022 Flying Ranee Express	Bombay Central-Surat	263
52.	2001/2002 Shatabdi Express	New Delhi-Bhopal	705
53.	2003/2004 Shatabdi Express	New Delhi-Lucknow (5 days a week)	507
54.	2005/2006 Shatabdi Express	New Delhi-Kalka	272
55.	2701/2702-7803/7804 Goa Express (BG-cum-MG)	Hazrat Nizammudin-Vasco-de-gama	2,190
56.	2401/2402 Shramjeevi Express	New Delhi-Patna	1,001
57.	6687/6688 Navyug Express	Jammu Tawi-Mangalore (weekly)	3,622
58.	5651/5652 Lohit Express	Jammu Tawi-Guwahati (weekly)	2,480
59.	4245/4246 Tapti Ganga Express	Surat-Varanasi (Bi-weekly)	1,403
60.	1147/1148 Shram Shakti Express	Dadar-Muzaffarpur (weekly)	1,971
61.	2953/2954 August Kranti Rajdhani Express	New Delhi-Bombay Central (Daily)	1,384
62.	2619/2620 Rajdhani Express	Nizamuddin-Bangalore (Weekly)	2,486
	METRE GAUGE TRAINS		
63.	2905/2906 Ashram Express	Delhi-Ahmadabad	934
64.	9615/9616 Chetak Express	Delhi-Udaipur	739
65.	2461/2462 Mandor Express	Jodhpur-Delhi	621
66.	2635/2636 Vaigai Express	Madras Egmore-Madurai	492
67.	2907/2908 Surya Nagri Express	Ahmadabad-Jodhpur	455
68.	2901/2902 Pink City Express	Delhi-Jaipur	308
69.	6103/6104 Pearl City Express	Madras Egmore-Tuticorin	655
70.	5811/5812 BV Express	Guwahati-Silchar	397
71.	5903/5904 Assam Mail	Guwahati-Tinsukia	514
72.	5313/5314 Marudhar Express	Kanpur-Jodhpur	915

AMENDMENTS TO THE CONSTITUTION

1. *The Constitution (First Amendment) Act, 1950.* —This amendment provided for several new grounds of restrictions to the right to freedom of speech and expression and the right to practise any profession or to carry on any trade or business as contained in Article 19 of the Constitution. These restrictions related to public order, friendly relations with foreign States or incitement to an offence in relation to the right to freedom of speech, and to the prescribing of professional or technical qualifications or the carrying on by the State, etc., of any trade, business, industry or service in relation to the right to carry on any trade or business. The amendment also inserted two new Articles, 31 A and 31 B and the Ninth Schedule to give protection from challenge to land reform laws.

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2. *The Constitution (Second Amendment) Act, 1952* — By this amendment, the scale or representation for election to the Lok Sabha was readjusted.

3. *The Constitution (Third Amendment) Act, 1954* — This amendment substituted entry 33 of List III (Concurrent List) of the Seventh Schedule to make it correspond to Article 369.

4. *The Constitution (Fourth Amendment) Act, 1955* — Article 31 (2) of the Constitution was amended to re-state more precisely the State's power of compulsory acquisition and requisitioning of private property and distinguish it from cases where the operation of regulatory of prohibitory laws of the States results in "deprivation of property". Article 31A of the Constitution was also amended to extend its scope to cover categories of essential welfare legislation like abolition of *zamindaris,* proper planning of urban and rural areas and for effecting a full control over the mineral and oil resources of the country, etc. Six Acts were also included in the Ninth Schedule. Article 305 was also amended to save certain laws providing of State Monopolies.

5. *The Constitution (Fifth Amendment) Act, 1955* —This amendment made a change in Article 3 so as to empower President to specify a time limit for state legislatures to convey their views on the proposed Central laws affecting areas, boundaries, etc., of their states.

6. *The Constitution (Sixth Amendment) Act, 1956* — This amendment made some changes in Articles 269 and 286 relating to taxes on sale and purchase of goods in the course of inter-state trade and commerce. A new entry 92 A was added to the Union List of the Seventh Schedule to the Constitution.

7. *The Constitution (Seventh Amendment) Act, 1956* —This amendment Act purported to give effect to the recommendations of the State Reorganisation Commission and the necessary consequential changes. Broadly, the then existing states and territories were changed to have two-fold classification of states and union territories. The amendment also provided for composition of the House of the People, re-adjustment after every census, provisions regarding the establishment of new High Courts, High Court Judges etc.

8. *The Constitution (Eighth Amendment) Act, 1960* —Article 334 was amended with a view to extending the period of reservation of seats for Scheduled Castes and Scheduled Tribes and to the Anglo-Indian community by nomination in Parliament and in State Legislatures for a further period of ten years.

9. *The Constitution (Ninth Amendment) Act, 1960* —The purpose of this amendment is to give effect to the transfer of certain territories to Pakistan in pursuance of the agreement extended into between Governments' of India and Pakistan. This amendment was necessitated in view of the Judgement of Supreme Court in "*In Re Berubari Union*" by which it was held that any agreement to cede a territory to another country could not be implemented by a law made under Article 3 but would only be implemented by an amendment of the Constitution.

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10. *The Constitution (Tenth Amendment) Act, 1961* —This Act amended Article 240 and the First Schedule in order to include areas of Dadra and Nagar Haveli as a Union Territory and to provide for its administration under the regulation making powers of President.

11. *The Constitution (Eleventh Amendment) Act, 1961.*—The purpose of this amendment was to amend Article 66 and 71 of the Constitution to provide that the election of President or Vice-President could not be challenged on the ground of any vacancy in the appropriate electoral college.

12. *The Constitution (Twelfth Amendment) Act, 1962* .—This amendment sought to include Goa, Daman and Diu as a Union Territory and to amend Article 240 for the purpose.

13. *The Constitution (Thirteenth Amendment) Act, 1962* —By this amendment, a new Article 371A was added to make special provisions with respect to state of Nagaland in pursuance of an agreement between Government of India and Naga People's Convention.

14. *The Constitution (Fourteenth Amendment) Act, 1962* —By this Act, Pondicherry was included in the First Schedule as a Union Territory, and this Act has also enabled the creation of Legislature by Parliamentary law for Himachal Pradesh, Manipur, Tripura, Goa, Daman and Diu and Pondicherry.

15. *The Constitution (Fifteenth Amendment) Act, 1963.* — This amendment provided for increase in the age of retirement of High Court Judge and for the provision of compensatory allowance to judges who are transferred from one High Court to another. The Act also provided for appointment of retired judges to act as judges of High Court. Article 226 was also enlarged to empower High Court to issue direction, orders or writs to any Government authority, etc., if the cause of action for the exercise of such power arose in the territories wherein the High Court exercise jurisdiction notwithstanding that seat of such Government authority is not within those territories. The Act also provided for the exercise of powers of Chairman of the Service Commissions, in their absence, by one of their Members.

16. *The Constitution (Sixteenth Amendment) Act, 1963.* — Article 19 was amended by this Act to impose further restriction on the rights to freedom of speech and expression, to assemble peaceably and without arms and to form associations, in the interests of sovereignty and integrity of India. The oath of affirmation to be subscribed by candidates seeking election to Parliament and State Legislatures have been amended to include as one of the conditions that they will uphold the sovereignty and integrity of India. The amendments are intended to promote national integration.

17. *The Constitution (Seventeenth Amendment) Act, 1964* .—Article 31A was further amended to prohibit the acquisition of land under personal cultivation unless the market value of the land is paid as compensation and the definition of "estate" as contained in that Article had also been enlarged with retrospective effect. The Ninth Schedule had also been amended to include 44 more Acts.

18. *The Constitution (Eighteenth Amendment) Act, 1966.* —Article 3 was amended by this Act to specify that the expression "State" will include a

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union territory also and to make it clear that the power to form a new state under this Article includes a power to form a new state or union territory by uniting a part of a state or a union territory to another state or union territory.

19. *The Constitution (Nineteenth Amendment) Act, 1966* .—Article 324 was amended to effect a consequential change as a result of the decision to abolish Election Tribunals and to hear election petitions by High Courts.

20. *The Constitution (Twentieth Amendment) Act, 1966* —This amendment was necessitated by the decision of the Supreme Court in Chadramohan vs. State of Uttar Pradesh in which certain appointments of District Judges in State of Uttar Pradesh were declared void by Supreme Court. A new Article 233 A was added and the appointments made by Governor were validated.

21. *The Constitution (Twenty-first Amendment) Act; 1967* —By this amendment, Sindhi language was included in the Eighth Schedule.

22. *The Constitution (Twenty-second Amendment) Act, 1969* —This Act was enacted to facilitate the formation of a new autonomous State of Meghalaya within State of Assam.

23. *The Constitution (Twenty-third Amendment) Act, 1969* — Article 334 was amended so as to extend the safeguards in respect of reservation of seats in Parliament and State Legislatures for Scheduled Castes and Scheduled Tribes as well as for Anglo-Indians for a further period of ten years.

24. *The Constitution (Twenty-fourth Amendment) Act, 1971* —This amendment was passed in the context of a situation that emerged with the verdict in Golaknath's case by Supreme Court. Accordingly, this Act amended Article 13 and Article 368 to remove all doubts regarding the power to Parliament to amend the Constitution including the Fundamental Rights.

25. *The Constitution (Twenty-fifth Amendment) Act, 1971* —This amendment further amended Article 31 in the wake of the Bank Nationalisation case. The word 'amount' was substituted in place of 'compensation' in the light of the judicial interpretation of the word 'compensation' meaning 'adequate compensation'.

26. *The Constitution (Twenty-sixth Amendment) Act, 1971* —By this amendment, the privy and privileges of the former rulers of Indian states were abolished. This amendment was passed as a result of Supreme Court decision in Madhav Rao's case.

27. *The Constitution (Twenty-seventh Amendment) Act, 1971* —This amendment was passed to provide for certain matters necessitated by the reorganisation of north-eastern states. A new Article 239B was inserted which enabled the promulgation of Ordinances by Administrators of certain union territories.

28. *The Constitution (Twenty-eighth Amendment) Act, 1972* —The amendment was enacted to abolish the special privileges of the members of Indian Civil Service in matters of leave, pension and rights as regard to disciplinary matters.

29. *The Constitution (Twenty-ninth Amendment) Act, 1972* —The Ninth Schedule to the Constitution was amended to include therein two Kerala

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Acts on land reforms.

30. *The Constitution (Thirtieth Amendment) Act, 1972* —The purpose of the amendment was to amend Article 133 in order to do away with the valuation test of Rs 20,000 as fixed therein, and to provide instead for an appeal to Supreme Court in civil proceedings only on a certificate issued by High Court that the case involves a substantial question of law of general importance and that in the opinion of High Court, the question needs to be decided by Supreme Court.

31. *The Constitution (Thirty-first Amendment) Act, 1973* —This Act *inter alia* raises the upper limit for the representation of states in the Lok Sabha from 500 to 525 and reducing the upper limit for the representation of union territories from 25 members to 20.

32. *The Constitution (Thirty-second Amendment) Act, 1973* —This Act provided the necessary constitutional authority for giving effect to the provision of equal opportunities to different areas of the State of Andhra Pradesh and for the constitution of an Administrative Tribunal with jurisdiction to deal with grievances relating to public services. It also empowered Parliament to legislate for the establishment of a Central university in the state.

33. *The Constitution (Thirty-third Amendment) Act, 1974* —By this amendment, Articles 101 and 190 were amended in order to streamline the procedure for resignation of Members of Parliament and State Legislatures.

34 *The Constitution (Thirty-fourth Amendment) Act, 1974*-By this Act, twenty more land tenure and land reforms laws enacted by various State Legislatures were included in the Ninth Schedule.

35. *The Constitution (Thirty-fifth Amendment) Act, 1974* —By this Act a new Article 2A was added thereby conferring on Sikkim the status of an associate State of Indian Union. Consequent amendments were made to Articles 80 and 81. A new schedule *i.e.*, Tenth Schedule, was added laying down terms and conditions of association of Sikkim with the Union.

36. *The Constitution (Thirty-sixth Amendment) Act, 1975* —This enacted to make Sikkim a full-fledged State of Indian Union and to include it in the First Schedule to the Constitution and to allot to Sikkim one seat each in the Council of States and in the House of the People. Article 2A and the Tenth Schedule inserted by the Constitution (Thirty-fifth Amendment) Act were omitted and Articles 80 and 81 were suitably amended.

37. *The Constitution (Thirty-seventh Amendment) Act, 1975* —By this Act, Union Territory of Arunachal Pradesh was provided with a Legislative Assembly. Article 240 of the Constitution was also amended to provide that as in the case of other union territories with Legislatures, the power of President to make regulations for the Union Territory of Arunachal Pradesh may be exercised only when the assembly is either dissolved or its functions remain suspended.

38. *The Constitution (Thirty-eighth Amendment) Act, 1975* —This Act amended Articles 123, 213 and 352 of the Constitution to provide that the

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satisfaction of President or Governor contained in these Articles would be called in question in any court of law.

39. *The Constitution (Thirty-ninth Amendment) Act, 1975* —By this Act, disputes relating to the election of President, Vice-President, Prime Minister and Speaker are to be determined by such authority as may be determined by Parliamentary Law. Certain Central enactments were also included in the Ninth Schedule by this Act.

40. *The Constitution (Fortieth Amendment) Act, 1976* —This Act provided for vesting in the Union of all mines, minerals and other things of value laying in the ocean within the territorial waters or the continental shelf or the exclusive economic zone of India. It further provided that all other resources of the exclusive economic zone of India shall also vest in the Union. This Act also provided that the limits of the territorial waters, the continental shelf, the exclusive economic zone and the maritime zones of India shall be as specified from time to time by or under any law made by Parliament. Also some more Acts were added to the Ninth Schedule.

41. *The Constitution (Forty-first Amendment) Act, 1976* —By this Act, Article 316 was amended to raise the retirement age of Members of State Public Service Commissions and Joint Public Service Commissions from 60 to 62 years.

42. *The Constitution (Forty-second Amendment) Act, 1976* —This Act made a number of important amendments in the Constitution. These amendments were mainly for purpose of giving effect to the recommendations of Swaran Singh Committee.

Some of the important amendments made are for the purpose of spelling out expressly the high ideals of socialism, secularism and the integrity of the nation, to make the Directive Principles more comprehensive and giving them precedence over those Fundamental Rights which have been allowed to be relied upon to the frustrate socio-economic reforms. The amendment Act also inserted a new chapter on the Fundamental Duties of citizens and made special provisions for dealing with anti-national activities, whether by individuals or by associations. The judiciary provisions were also amended by providing for a requirement as to the minimum number of judges for determining question as to the constitutional validity of law and for a special majority of not less than two-third for declaring any law to be constitutionally invalid.

To reduce the mounting arrears in High Courts and to secure the speedy disposal of service matters, revenue matters and certain other matters of special importance in the context of socio-economic development and progress, this amendment Act provided for the creation of Administrative and other tribunals for dealing with such matters while preserving the Jurisdiction of the Supreme Court in regard to such matters under Article 136 of the Constitution. Certain modifications in the writ jurisdiction of High Courts under Article 226 were also made.

43. *The Constitution (Forty-third Amendment) Act, 1977* —This Act *inter alia* provided for the restoration of the jurisdiction of the Supreme Court and

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High Courts, curtailed by the enactment of the Constitution (Forty-second Amendment) Act, 1976 and accordingly Articles 32A, 131A, 144A, 226A and 228A included in the Constitution by the said amendment, were omitted by this Act. The Act also provided for the omission of Article 31 D which conferred special powers on Parliament to enact certain laws in respect of anti-national activities.

44. *The Constitution (Forty-fourth Amendment) Act, 1978* —The right to property which had been the occasion for more than one amendment of Constitution was omitted as a Fundamental Right and it was made only as a legal right. It was, however, ensured that the removal of the right to property from the list of Fundamental Rights would not affect the right of minorities to establish and administer educational institutions of their choice. Article 352 of the Constitution was amended to provide "armed rebellion" as one of the circumstances for declaration of emergency. Internal disturbance not amounting to armed rebellion would not be a ground for the issuance of a Proclamation. The right to personal liberty as contained in Articles 21 and 22 is further strengthened by the provision that a law for preventive detention cannot authorise, in any case, detention for a longer period than two months unless an Advisory Board has reported that there is sufficient cause for such detention. The additional safeguard has also been provided by the requirements that Chairman of an Advisory Board shall be a serving Judge of the appropriate High Court and that the board shall be constituted in accordance with the recommendations of the Chief Justice of that High Court.

With a view to avoiding delays, Articles 132 and 134 were amended and a new Article 134A was inserted to provide that a High Court should consider the question of granting a certificate for appeal to Supreme Court immediately after the delivery of the judgement, final order or sentence concerned on the basis of an oral application by a party or, if the High Court deems fit so to do, on its own. The other amendments made by the Act are mainly for removing or correcting the distortions which came into the Constitution by reason of the amendments initiated during the period of internal emergency.

45. *The Constitution (Forty-fifth Amendment) Act,* 1980 — This was passed to extend safeguards in respect of reservation of seats in Parliament and State Assemblies for Scheduled Castes, Scheduled Tribes as well as for Anlgo-Indians for a further period of ten years.

46. *The Constitution (Forty-sixth Amendment) Act, 1982* — Article 269 was amended so that the tax levied on the consignment of goods in the course of inter-state or commerce shall be assigned to the states. This Article was also amended to enable Parliament to formulate by law principle for determining when a consignment of goods takes place in the course of inter-state trade or commerce. A new entry 92B was also inserted in the Union List to enable the levy of tax on the consignment of goods where such consignment takes place in the course of inter-state trade or commerce.

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Clause (3) of Article 286 was amended to enable Parliament to specify, by law, restrictions and conditions in regard to the system of levy, rates and other incidence of tax on the transfer of goods involved in the execution of a works contract, on the delivery of goods on hire-purchase or any system of payment of instalments etc.

Article 366 was also suitably amended to insert a definition of "tax on the sale or purchase of good" to include transfer for consideration of controlled commodities, transfer of property in goods involved in the execution of a works contract, delivery of goods on hire-purchase or any system of payment by instalments, etc.

47. *The Constitution (Forty-seventh Amendment) Act, 1984* — This amendment is intended to provide for the inclusion of certain Land Reforms Acts in the Ninth Schedule to the Constitution with a view to obviating the scope of litigation hampering the implementation process of those Acts.

48. *The Constitution (Forty-eighth Amendment) Act, 1984* —The Proclamation issued by President under Article 356 of the Constitution with respect to the State of Punjab cannot be continued in force for more than one year unless the special conditions mentioned in clause (5) of the said Article are satisfied. As it is felt that the continued force of the said Proclamation is necessary, therefore, the present amendment had been effected so as to make the conditions mentioned in clause (5) of Article 356 inapplicable in the instant case.

49. *The Constitution (Forty-ninth Amendment) Act, 1984* — Tripura Government recommended that the provisions of the Sixth Schedule to the Constitution may be made applicable to tribal areas of that state. The amendment involved in this Act is intended to give a constitutional security to the autonomous District Council functioning in the State.

50. *The Constitution (Fiftieth Amendment) Act, 1984* —By Article 33 of the Constitution, Parliament is empowered to enact laws determining to what extent any of the rights conferred by Part III of the Constitution shall, in their application to the members of the Armed Forces or the Forces charged with the maintenance of public order, be restricted or abrogated so as to ensure proper discharge of their duties and maintenance of discipline among them.

It was proposed to amend Article 33 so as to bring within its ambit-

(i) the members of the Force charged with the protection of property belonging to or in the charge or possession of the state; or

(ii) persons employed in any bureau or other organisation established by the state for purposes of intelligence or counter-intelligence; or

(iii) persons employed in, or in connection with the telecommunication systems set up for the purposes of any Force, bureau or organisation.

Experience has revealed that the need for ensuring proper discharge of their duties and maintenance of discipline among them is of paramount importance in the national interest.

51. *The Constitution (Fifty-first Amendment) Act, 1984* — Article 330 has been amended by this Act for providing reservation of seats for Scheduled

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Tribes in Meghalaya, Nagaland, Arunachal Pradesh and Mizoram in Parliament and Article 332 has been amended to provide similar reservation in the Legislative Assemblies of Nagaland and Meghalaya to meet the aspirations of local tribal population.

52. *The Constitution (Fifty-second Amendment) Act, 1985* —It amends the Constitution to provide that a Member of Parliament or a State Legislature who defects or is expelled from the party which set him up as a candidate in the election or if an independent member of the House joins a political party after expiry of six months from the date on which he takes seat in the House shall be disqualified to remain a member of the House. The Act also makes suitable provisions with respect to splits in and merger of political parties.

53. *The Constitution (Fifty-third Amendment) Act, 1986* — This has been enacted to give effect to the Memorandum of Settlement of Mizoram which was signed by Government of India and Mizoram Government with Mizoram National Front on 30 June 1986. For this purpose, a new Article 371G has been inserted in the Constitution *inter alia* preventing application of any Act of Parliament in Mizoram in respect of religious or social practices of Mizos, Mizos' customary law and procedure, administration of civil and criminal practice involving decisions according to Mizos' customary law and ownership and transfer of land unless a resolution is passed in the Legislative Assembly to that effect. This, however, will not apply to any Central Act already in force in Mizoram before the commencement of this amendment. The new Article also provides that the Legislative Assembly of Mizoram shall consist of not less than forty members.

54. *The Constitution (Fifty-fourth Amendment). Act, 1986* — The Act increases the salaries of Supreme Court and High Court Judges as follows:

Chief Justice of India	Rs 10,000 per month
Judges of Supreme Court	Rs 9,000 per month
Chief Justice of High Court	Rs 9,000 per month
Judges of High Court	Rs 8,000 per month

This Act amended Part 'D' of the Second Schedule to the Constitution to give effect to the above increases in the salaries of Judges and to make an enabling provision in Articles 125 and 221 to provide for changes in the salaries of judges in future by Parliament by law.

55 *The Constitution (Fifty-fifth Amendment) Act, 1986* —This seeks to give effect to the proposal of Government of India to confer statehood on the Union Territory of Arunachal Pradesh and for this purpose, a new Article 371H has been inserted which, *inter alia*, confers, having regard to the sensitive location of Arunachal Pradesh to vest special responsibility on Governor of the new State of Arunachal Pradesh with respect to law and order in the State and in the discharge of his functions, the Governor shall after consulting the Council of Ministers, exercise his individual judgement, as to the action to be taken and this responsibility shall cease when President so directs. The new Article also provides that the new Legislative

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Assembly of the new State of Arunachal Pradesh shall consist of not less than thirty members.

56. *The Constitution (Fifty-sixth Amendment) Act, 1987* — Government of India has proposed to constitute the territories comprised in Goa District of the Union Territory of Goa, Daman and Diu as the State of Goa and the territories comprised in Daman and Diu districts of that Union Territory as a new Union Territory of Daman and Diu. In this context, it was proposed that the Legislative Assembly of the new State of Goa shall consist of forty members. The existing Legislative Assembly of the Union Territory of Goa, Daman and Diu has thirty elected members and three nominated members. It was intended to make this Assembly with the exclusion of two members representing Daman and Diu districts the provisional Legislative Assembly for the new State of Goa until elections are held on the expiry of the five year terms of the existing Assembly. It was, therefore, decided to provide that the Legislative Assembly of the new State of Goa shall consist of not less then 30 members. The special provision required to be made to give effect to this proposal is carried out by this amendment.

57. *Constitution (Fifty-seventh Amendment) Act, 1987* —The Constitution (Fifty-first Amendment) Act, 1984 was enacted to provide for reservation of seats in the House of the People for Scheduled Tribes in Nagaland, Meghalaya, Mizoram and Arunachal Pradesh and also for reservation of seats for Scheduled Tribes in the Legislative Assemblies of Nagaland, Meghalaya by suitably amending Articles 330 and 332. Even though these states are predominantly tribal, the underlying objective of the aforesaid Act was to ensure that the members of Scheduled Tribes in these areas do not fail to secure a minimal representation because of their inability to compete with the advanced sections of the people. The Constitution (Fifty-first Amendment) Act, though formally enforced, could not be fully implemented unless parallel action is taken to determine the seats which are to be reserved for Scheduled Tribes in these areas. The number of seats reserved for Scheduled Castes and Scheduled Tribes in the Legislative Assembly of any State under Article 332 of the Constitution will have to be determined having regard to the provisions of Article 332 (3) of the Constitution. However, in view of the historical background with respect to the areas comprised in North-Eastern States, the circumstances obtaining in these areas in the state of development of Scheduled Tribes and other relevant considerations, it was considered necessary to provide for special arrangements with regard to the reservation for Scheduled Tribes in these areas for a temporary period so as to facilitate easy transition of these areas to the normal arrangements as envisaged in the Constitution. Article 332 of the Constitution was further amended for making a temporary provision, until the re-adjustment of seats on the basis of first census after the year 2000 under Article 170 of the Constitution for these states, for the determination of the number of seats reserved for Scheduled Tribes. This amendment seeks to provide that if all the seats in the Legislative Assembly

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of such states in existence on the date of coming into force of this Constitution Amendment Act are held by the members of Scheduled Tribes, all the seats except one shall be reserved for Scheduled Tribes and in any other case such number of seats as bears to the total number of seats a proportion not less than the number of members belonging to Scheduled Tribes in the existing Assembly bears to the total number of seats in the existing Assembly. The Act achieves these objectives.

58. *The Constitution (Fifty-eighth Amendment) Act, 1987* — There has been a general demand for the publication of authoritative text of the Constitution in Hindi. It is imperative to have an authoritative text of the Constitution for facilitating its use in the legal process. Any Hindi version of the Constitution should not only conform to the Hindi translation published by the Constituent Assembly, but should be in conformity, with the language style and terminology adopted in the authoritative texts of Central Acts in Hindi. The Constitution has been amended to empower President of India to publish under his authority the translation of the Constitution in Hindi signed by the Members of the Constituent Assembly with such modification as may be necessary to bring it in conformity with the language, style and terminology adopted in the authoritative texts of Central Acts in Hindi language. President has also been authorised to publish the translation in Hindi of every amendment of the Constitution made in English.

59. *The Constitution (Fifty-ninth Amendment) Act, 1988* — The Act amends Article 365 (5) of the Constitution so as to facilitate the extension of a Presidential Proclamation issued under cause (1) of Article 356 beyond a period of one year, if necessary upto a period of three years, as permissible under clause (4) of Article 356 with respect to the State of Punjab because of the continued disturbed situation there. The Act also amends Article 352 of the Constitution pertaining to the Proclamation of emergency in its application to the State of Punjab and includes "internal disturbance" as one of the grounds for making a Proclamation in respect of the State of Punjab only. As a consequence of amendment in Article 352, Articles 358 and 359 in relation to the State of Punjab will be operative only for a period of two years from 30 March 1988, which is the date of commencement of the amendment.

60 *The Constitution (Sixtieth Amendment) Act, 1988* — The Act amends clause (2) of Article 276 of the Constitution so as to increase the ceiling of taxes on professions, trades, callings and employment from two hundred and fifty rupees per annum to two thousand and five hundred rupees per annum. The upward revision of this tax will help state governments in raising additional resources. The proviso to clause (2) has been omitted.

61 *The Constitution (Sixty-first Amendment) Act, 1989* — The Act provides for reducing voting age from 21 to 18 years by amending Article 326 of the Constitution to provide to the unrepresented youth of the country and opportunity to give vent to their feelings and help them become a part of political process.

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62. *The Constitution (Sixty-second Amendment) Act, 1989* — Article 334 of the Constitution lays down that the provisions of the Constitution relating to the reservation of seats for the Scheduled Castes and the Scheduled Tribes and the representation of the Anglo-Indian community by nomination in the Lok Sabha and in the Legislative Assemblies of the States shall cease to have effect on the expiration of a period of forty years from the commencement of the Constitution. Although the Scheduled Castes and the Scheduled Tribes have made considerable progress in the last forty years, the reasons which weighed with the Constituent Assembly in making provisions with regard to the aforesaid reservation of seats and nomination of members, have not ceased to exist. The Act amends Article 334 of the Constitution to continue the reservation for the Scheduled Castes and the Scheduled Tribes and the representation of the Anglo-Indians by nomination for a further period of ten years.

63. *The Constitution (Sixty-third Amendment) Act, 1989* — The Constitution (Fifty-ninth Amendment) Act, 1988 was enacted in March 1988, making certain changes in regard to making a Proclamation of Emergency in Punjab and to the duration of President's rule in State. On reconsideration, the Government decided that the special powers in regard to the Proclamation of Emergency in Punjab as envisaged in the said amendment is no longer required. Accordingly the provision to clause (5) of Article 356 and Article 359A of the Constitution have been omitted.

64. *The Constitution (Sixty-fourth Amendment) Act, 1990.* — This Act amends clauses (4) and (5) of Article 356 of the Constitution with a view to facilitate the extension of the Proclamation issued under clause (1) of Article 356 of the Constitution on 11 May 1987 upto a total period of three years and six months in relation to the State of Punjab.

65. *The Constitution (Sixty-fifth Amendment) Act, 1990* .— Article 338 of the Constitution provides for a Special Officer for the Scheduled Castes and Scheduled Tribes to investigate all matters relating to the safeguards provided for the Scheduled Castes and Scheduled Tribes under the Constitution and to report to the President on their working. The Article has been amended for the Constitution of a National Commission for Scheduled Castes and Scheduled Tribes consisting of a Chairperson, Vice-Chairperson and five other Members who shall be appointed by the President by warrant under his hand and seal. The amended Article elaborates the duties of the said Commission and covers measures that should be taken by the Union or any state for the effective implementation of the reports presented by the Commission. It also provides that the Commission shall, while investigating any matter or inquiring into any complaint have all the powers of a Civil Court trying a suit and the reports of the said Commission shall be laid before Parliament and the Legislatures of the states.

66. *The Constitution (Sixty-sixth Amendment) Act, 1990* — The Act protects fifty-five State Acts relating to land reforms and ceiling on agricultural land

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holdings, enacted by States of Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal and administration of the Union Territory of Pondicherry, from challenge in courts, by including them in the Ninth Schedule to the Constitution.

67. *The Constitution (Sixty-seventh Amendment) Act, 1990*—The three year period in the case of Proclamation issued on 11 May 1987 with respect to the State of Punjab was extended to three years and six months by the Constitution (Sixty-fourth Amendment) Act, 1990. This Act further amends clause (4) of Article 356 so as to further extend the period upto a total period of four years.

68. *The Constitution (Sixty-eighth Amendment) Act,1991*— The three-year period in the case of Proclamation issued on 11 May 1987 with respect to the State of Punjab was earlier extended to four years by the Constitution (Sixth-seventh Amendment) Act,1990. This Act further amends clause (4) of Article 356 so as to further extend the period upto a total period of five years.

69. *The Constitution (Sixty-ninth Amendment) Act, 1991*—The Government of India appointed on 24 December 1987 a Committee to go into various issues connected with the administration of Delhi and to recommend measures, *inter alia* for the streamlining of the administrative set up. After detailed inquiry and examination, it recommend that Delhi should continue to be a union territory and may be provided with a Legislative Assembly and a Council of Ministers responsible to such Assembly with appropriate powers to deal with matters of concern to the common man. The Committee also recommended that with a view to ensuring stability and permanence, arrangements should be incorporated in the Constitution to give the national capital a special status among the union territories. This Act has been passed to give effect to the above recommendations.

70. *The Constitution (Seventieth Amendment) Act, 1992*— While considering the Constitution (Seventy-fourth Amendment) Bill, 1991 and the Government of National Capital Territory Bill, 1991 views were expressed in both the Houses of Parliament in favour of including also the elected members of the legislative assemblies of union territories in the electoral college for the election of the President under Article 54 of the Constitution.

At present Article 54 relating to the election of the President provides for an electoral college consisting of only the elected Members of Parliament as well as the legislative assemblies of the states (not of union territories). Similarly, Article 55 providing for the manner of such election also speaks of legislative assemblies of states.

Accordingly, an Explanation was inserted in Article 54 to provide that reference to 'State' in Article 54 and 55 would include the National Capital Territory of Delhi and the Union Territory of Pondicherry for constituting the electoral college for election of the President. This would enable the elected members of the legislative Assembly created for the Union Territory

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of Pondicherry under the provisions of Article 239A and of the proposed legislative Assembly of the National Capital Territory of Delhi under Article 239AA to be included in the electoral college.

71. *The Constitution (Seventy First Amendment) Act, 1992*— There have been demands for inclusion of certain languages in the Eighth Schedule to the Constitution. This Act amends the Eighth Schedule to the Constitution to include Konkani, Manipuri and Nepali languages in the Eighth Schedule to the Constitution.

72. *The Constitution (Seventy-second Amendment) Act, 1992*— For restoring peace and harmony in the areas of the State of Tripura where disturbed conditions prevailed, a Memorandum of Settlement was signed by the Government of India with Tripura National Volunteers on 12 August 1988.

In Order to implement the said Memorandum, Article 332 of the Constitution has been amended by the Constitution (Seventy-second Amendment) Act, 1992 for making a temporary provision for the determination of the number of seats reserved for the Scheduled Tribes in the State Assembly of Tripura, until the re-adjustment of seats is made on the basis of the first census after the year 2000 under Article 170 of the Constitution.

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APPENDICES

GOVERNMENT OF INDIA
(AS ON 19 JANUARY 1993)

Dr. Shanker Dayal Sharma	President
K.R. Narayanan	Vice President

COUNCIL OF MINISTERS

CABINET MINISTER

P.V. Narasimha Rao	Prime Minister and also incharge of the Ministries/Departments of Personnel, Public Grievances and Pensions, Science & Technology, Ocean Development, Electronics, Atomic Energy, Space, Chemicals & Fertilizers, Rural Development, Non-Conventional Energy Sources and Law, Justice & Company Affairs and the additional charge of the Ministry of Industry and other subjects not allocated to any other Cabinet Minister or Minister of State (Independent Charge).
Arjun Singh	Minister of Human Resource Development.
B. Shankaranand	Minister of Health and Family Welfare.
Dr. Manmohan Singh	Minister of Finance.
S.B. Chavan	Minister of Home Affairs.
Sharad Pawar	Minister of Defence.
Balram Jakhar	Minister of Agriculture.
C.K. Jaffer Sharief	Minister of Railways.
Ghulam Nabi Azad	Minister of Civil Aviation and Tourism.
A.K. Antony	Minister of Civil Supplies, Consumer Affairs & Public Distribution.
Dinesh Singh	Minister of External Affairs.
Sheila Kaul	Minister of Urban Development.
Sitaram Kesri	Minister of Welfare.
Vidyacharan Shukla	Minister of Water Resources and Minister of Parliamentary Affairs.
Pranab Mukherjee	Minister of Commerce.
N.K.P. Salve	Minister of Power.

MINISTERS OF STATE (INDEPENDENT CHARGE)

Ajit Kumar Panja	Minister of State (Independent charge) of the Ministry of Coal.
Balram Singh Yadav	Minister of State (Independent charge) of the Ministry of Mines.
Giridhar Gomango	Minister of State (Independent charge) of the Ministry of Planning and Programme Implementation.

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Jagdish Tytler	Minister of State (Independent charge) of the Ministry of Surface Transport.
K.P. Singh Deo	Minister of State (Independent charge) of the Ministry of Information and Broadcasting.
Kalp Nath Rai	Minister of State (Independent charge) of the Ministry of Food.
Kamal Nath	Minister of State (Independent charge) of the Ministry of Environment and Forests.
P.A. Sangma	Minister of State (Independent charge) of the Ministry of Labour.
Capt. Satish Sharma	Minister of State (Independent charge) of the Ministry of Petroleum and Natural Gas.
Sontosh Mohan Dev	Minister of State (Independent charge) of the Ministry of Steel.
Sukh Ram	Minister of State (Independent charge) of the Ministry of Communications.
Tarun Gogoi	Minister of State (Independent charge) of the Ministery of Food Processing Industries.
G.Venkat Swamy	Minister of State (Independent charge) of the Ministry of Textiles.

MINISTERS OF STATE

Dr. Abrar Ahmed	Minister of State in the Ministry of Finance & Minister of State in the Ministry of Parliamentary Affairs.
Arvind Netam	Minister of State in the Ministry of Agriculture.
Basava Rajeshwari	Minister of State in the Ministry of Human Resource Development (Deptt. of Women & Child Development).
Bhuvnesh Chaturvedi	Minister of State in the Prime Minister's Office.
Eduardo Faleiro	Minister of State in the Ministry of Chemicals and Fertilizers.
H.R. Bhardwaj	Minister of State in the Ministry of Law, Justice and Company Affairs.
K.C. Lenka	Minister of State in the Ministry of Railways.
K.V. Thangka Balu	Minister of State in the Ministry of Welfare.
Kamaluddin Ahmed	Minister of State in the Ministry of Civil Supplies, Consumer Affairs and Public Distribution.
Krishna Sahi	Minister of State in the Ministry of Industry (Deptt. of Industrial Development).
M. Arunachalam	Minister of State in the Ministry of Industry (Deptt. of Small Scale Industries & Agro and Rural Industries).
M.V. Chandrashekhar Murthy	Minister of State in the Ministry of Finance.
Mallikarjun	Minister of State in the Ministry of Defence.
Margaret Alva	Minister of State in the Ministry of Personnel, Public Grievances and Pensions.
Mukul Wasnik	Minister of State in the Ministry of Human Resource Development (Deptt. of Youth Affairs & Sports).
P.K. Thungon	Minister of State in the Ministry of Urban Development.
P.M Sayeed	Minister of State in the Ministry of Home Affairs.
P.R. Kumaramangalam	Minister of State in the Ministry of Science and Technology, Department of Electronics and Deptt. of Ocean Development and Minister of State in the Ministry of Parliamentary Affairs.

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P.V. Rangayya Naidu	Minister of State in the Ministry of Power.
R.L. Bhatia	Minister of State in the Ministry of External Affairs.
Rajesh Pilot	Minister of State in the Ministry of Home Affairs.
Col. Ram Singh	Minister of State in the Ministry of Rural Development (Deptt. of Wasteland Rural Development).
Rameshwar Thakur	Minister of State in the Ministry of Rural Development (Deptt. of Rural Development).
S. Krishna Kumar	Minister of State in the Ministry of Non-Conventional Energy Sources.
Salman Khursheed	Minister of State in the Ministry of External Affairs.
Sukhbans Kaur	Minister of State in the Ministry of Civil Aviation and Tourism (Deptt. of Tourism).
Uttambhai Patel	Minister of State in the Ministry of Rural Development (Deptt. of Rural Development).

DEPUTY MINISTERS

Paban Singh Ghatowar	Deputy Minister in the Ministry of Health and Family Welfare.
Ram Lal Rahi	Deputy Minister in the Ministry of Home Affairs.
Selja	Deputy Minister in the Ministry of Human Resource Development (Deptt. of Education and Deptt. of Culture).

MEMBERS OF PARLIAMENT

RAJYA SABHA
(As on 25 January 1993)

Chairman: **K.R. Narayanan**

Deputy Chairman : **Dr. (Smt.) Nejma Heptulla**

ANDHRA PRADESH (18)

1.	A.S. Chowdhri	Cong (I)
2.	Renuka Chowdhury	TD.
3.	R.K. Dhawan	Cong (I)
4.	Satyanarayana Dronamraju	Cong (I)
5.	N. Giri Prasad	CPI
6.	M.M. Hashim	Cong (I)
7.	Mentay Padmanabham	TD
8.	Pragada Kotaiah.	Cong (I)
9.	Moturu Hanumantha Rao	CPI(M)
10.	V. Hanumantha Rao	Cong (I)
11.	V. Rajeshwar Rao	Cong (I)
12.	G. Prathapa Reddy	Cong (I)
13.	Dr. Narreddy Thulasi Reddy	TD
14.	S. Jaipal Reddy	JD
15.	T. Chandrasekhar Reddy	Cong (I)
16.	Mohd. Khaleelur Rahman	TD
17.	Dr Yelamanchili Sivaji	TD
18.	P. Upendra	Independent

ARUNACHAL PRADESH (1)

19.	Nyodek Yonggam	Cong (I)

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ASSAM (7)

20.	Bhadreswar Gohain	AGP
21.	Bhubaneshwar Kalita	Cong (I)
22.	David Ledger	Cong (I)
23.	Tara Charan Majumdar	Independent
24.	Manmohan Singh	Cong (I)
25.	Matang Sing	Cong (I)
26.	Basanti Sarma	Cong (I)

BIHAR (22)

27.	Parmeshwar Kumar Agarwalla	BJP
28.	S.S. Ahluwalia	Cong (I)
29.	Anil Kumar	JD
30.	Ram Deo Bhandari	JD
31.	Dr. Faguni Ram	Cong (I)
32.	Gaya Singh	CPI
33.	Inder Kumar Gujral	JD
34.	Shamim Hashmi	Cong (I)
35.	Sitaram Kesri	Cong (I)
36.	Chaturanan Mishra	CPI
37.	Kameshwar Paswan	BJP
38.	Rafique Alam	Cong (I)
39.	Dayanand Sahay	Cong (I)
40.	Rajni Ranjan Sahu	Cong (I)
41.	Digvijay Singh	JD (S)
42.	Shankar Dayal Singh	JD
43.	Kamla Sinha	JD
44.	Yashwant Sinha	JD(S)
45.	Rameshwar Thakur	Cong (I)
46.	Ramendra Kumar Yadav "Ravi"	JD
47.	Ranjan Prasad Yadav	JD
48.	Vacant	

GOA (1)

49	John F. Fernandes	Cong. (I)

GUJARAT (11)

50.	Jitendrabhai Labhshanker Bhatt	Cong (I)
51.	Anantray Devshanker Dave	BJP
52.	Chimanbhai Mehta	Independent
53.	Rajubhai A. Parmar	Cong (I)
54.	Chhotubhai Patel	Cong (I)
55.	Vithalbhai M. Patel	Cong (I)
56.	Ramsinh Rathwa	Cong (I)
57.	P. Shiv Shanker	Cong (I)
58.	Gopalsinh G. Solanki	BJP
59.	Madhavsinh Solanki	Cong (I)
60.	Dineshbhai Trivedi	JD

HARYANA (5)

61.	Vidya Beniwal	JD (S)
62.	Mohinder Singh Lather	JD (S)
63.	Ramji Lal	Cong (I)
64.	S.S. Surjewala	Cong (I)
65.	Sushma Swaraj	BJP

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HIMACHAL PRADESH (3)

66.	Sushil Barongpa	Cong (I)
67.	Maheshwar Singh	BJP
68.	Krishan Lal Sharma	BJP

JAMMU AND KASHMIR (4)

69.	Ghulam Rasool Matto.	NC
70.	Vacant	
71.	Vacant	
72.	Vacant	

KARNATAKA (12)

73.	Margaret Alva	Cong. (I)
74.	H. Hanumanthappa	Cong (I)
75.	B.K. Hariprasad	Cong (I)
76.	K.R. Jayadevappa	Cong (I)
77.	J.P. Javali	JD
78.	Ram Jethmalani	JD
79.	Prabhakar B. Kore	Cong (I)
80.	Gundappa Korwar	Cong (I)
81.	G.Y. Krishana	Cong (I)
82.	Prof. I.G. Sanadi	Cong (I)
83.	Satchidananda	Cong (I)
84.	Abdul Samad Siddiqui	JD

KERALA (9)

85.	A.K. Antony	Cong (I)
86.	M.A. Baby	CPI (M)
87.	E. Balanandan	CPI (M)
88.	N.E. Balaram	CPI
89.	M.M. Jacob	Cong (I)
90.	B.V. Abdulla Koya	ML
91.	Ramachandran Pillai	CPI (M)
92.	Thennala Balakrishna Pillai	Cong (I)
93.	Arangil Sreedharan	JD

MADHYA PRADESH (16)

94.	Lakkhiram Agarwal	BJP
95.	Sikander Bakht	BJP
96.	Hansraj Bhardwaj	Cong (I)
97.	Shivprasad Chanpuria	BJP
98.	Ghufran Azam	Cong (I)
99.	Narain Prasad Gupta	BJP
100.	Dr. Jinendra Kumar Jain	BJP
101.	Ajit P.K. Jogi	Cong (I)
102.	Dilip Singh Judev	BJP
103.	Radhakishan Malaviya	Cong (I)
104.	Suresh Pachouri	Cong (I)
105.	O. Rajgopal	BJP
106.	Ratan Kumari	Cong (I)
107.	Kailash Narain Sarang	BJP
108.	Jagannath Singh	BJP
109.	Veena Verma	Cong (I)

MAHARASHTRA (19)

110.	Ghulam Nabi Azad	Cong (I)
111.	Murlidhar Chandrakant Bhandare	Cong (I)

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112.	S.B. Chavan	Cong (I)
113.	Jagesh Desai	Cong (I)
114.	Dr. (Shrimati) Najma Heptulla	Cong (I)
115.	Vithalrao Madhavrao Jadhav	Cong (I)
116.	Chandrika Abhinandan Jain	Cong (I)
117.	Dr. Shrikant Ramachandra Jichkar	Cong (I)
118.	Dr. Bapu Kaldate	JD
119.	Suresh Kalmadi	Cong (I)
120.	Saroj Khaparde	Cong (I)
121.	Pramod Mahajan	BJP
122.	Shivajirao Giridhar Patil	Cong (I)
123.	Vishwasrao Ramrao Patil	JD (S)
124.	Satish Pradhan	Shiv Sena
125.	N.K.P. Salve	Cong (I)
126.	Viren J. Shah	BJP
127.	Sushilkumar Sambhajirao Shinde	Cong (I)
128.	Vishvjit P. Singh	Cong (I)

MANIPUR (1)

129.	W. Kulabidhu Singh	JD

MEGHALAYA (1)

130.	G.G. Swell	HSPDP

MIZORAM (I)

131.	Hiphei	Cong (I)

NAGALAND (I)

132.	Vizol	NPC

ORISSA (10)

133.	Somappa R. Bommai	JD
134.	Basant Kumar Das	JD (S)
135.	Mira Das	JD
136.	Kahnu Charan Lenka	Cong (I)
137.	Manmohan Mathur	Cong (I)
138.	Sarada Mohanty	JD
139.	lla Panda	JD
140.	Narendra Pradhan	JD
141.	Santosh Kumar Sahu	Cong (I)
142.	Pravat Kumar Samantaray	JD

PUNJAB (7)

143.	Balbir Singh	Cong (I)
144.	Jagir Singh Dard	Cong (I)
145.	Iqbal Singh	Cong (I)
146.	Mohindar Singh Kalyan	Cong (I)
147.	Virendra Kataria	Cong (I)
148.	Venod Sharma	Cong (I)
149.	Surinder Kumar Singla	Cong (I)

RAJASTHAN (10)

150.	Dr Abrar Ahmed	Cong (I)
151.	Ramdas Agarwal	BJP
152.	Sunder Singh Bhandari	BJP
153.	Krishna Kumar Birla	Cong (I)
154.	Bhuvnesh Chaturvedi	Cong (I)
155.	Moolchand Meena	Cong (I)

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156.	Prof. M.G.K. Menon	JD
157.	Rajendra Prasad Mody	Independent
158.	Kamal Morarka	JD(S)
159.	Shiv Charan Singh	BJP

SIKKIM (1)

160.	Karma Topden	SSP

TAMIL NADU (18)

161.	S. Austin	AIADMK
162.	V. Rajan Chellappa	AIADMK
163.	Misa R. Ganesan	DMK
164.	V Gopalsamy	DMK
165.	Pasumpon Tha. Kiruttinan	DMK
166.	S. Madhavan	AIADMK
167.	S. Muthu Mani	AIADMK
168.	Murasoli Maran	DMK
169.	A. Nallasivan	CPI (M)
170.	Jayanthi Natarajan	Cong (I)
171.	N.Thangaraj Pandian	AIADMK
172.	J.S. Raju	DMK
173.	S.K.T. Ramachandran	Cong (I)
174.	T.A. Mohammad Saqhy	DMK
175.	G. Swaminathan	AIADMK
176.	K.K. Veerappan	DMK
177.	Tindivanam G. Venkataraman	DMK
178.	S. Viduthalai Virumbi	DMK

TRIPURA (1)

179.	Sudhir Ranjan Majumdar	Cong (I)

UTTAR PRADESH (34)

180.	Dr. Z.A. Ahmad	CPI
181.	Maulana Obaidullh Khan Azmi	JD
182.	Trilok Nath Chaturvedi	BJP
183.	Harmohan Singh Chaudhary	JD(S)
184.	Hari Singh Chowdhry	Cong (I)
185.	Makhan Lal Fotedar	Cong (I)
186.	Anand Prakash Gautam	Independent
187.	Sangh Priya Gautam	BJP
188.	Dr.Ishwar Chandra Gupta	BJP
189.	Anant Ram Jaiswal	JD(S)
190.	Dr. Murli Manohar Joshi	BJP
191.	Kailashpati	Cong (I)
192.	Mohd. Masud Khan	Independent
193.	Maulana Asad Madni	Cong (I)
194.	Satya Prakash Malaviya	JD (S)
195.	Jagdish Prasad Mathur	BJP
196.	Shiv Pratap Mishra	Cong (I)
197.	Mohammed Afzal alias Meem Afzal	JD
198.	Ram Ratan Ram	BJP
199.	Syed Sibtey Razi	Cong (I)
200.	Dr. Sanjaya Sinh	JD (S)
201.	Satya Bahin	Cong (I)
202.	Mufti Mohd. Sayeed	JD
203.	Vishnu Kant Shastri	BJP

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204.	K.N. Singh	Cong (I)
205.	Dr. Naunihal Singh	BJP
206.	Som Pal	JD
207.	Subramanian Swamy	JP
208.	Shanti Tyagi	Cong (I)
209.	Ish Dutt Yadav	JD(S)
210.	Ram Gopal Yadav	SP
211.	Ram Naresh Yadav	Cong (I)
212.	Bal Ram Singh Yadava	Cong (I)
213.	Vacant	

WEST BENGAL (16)

214.	Mohammed Amin	CPI(M)
215.	Sunil Basu Ray	CPI (M)
216.	Prof. Saurin Bhattacharya	RSP
217.	Debabrata Biswas	AIFB
218.	Tridib Chaudhury	RSP
219.	Gurudas Das Gupta	CPI
220.	Dipen Ghosh	CPI (M)
221.	Ramnarayan Goswami	CPI(M)
222.	Sarala Maheshwari	CPI(M)
223.	Samar Mukherjee	CPI(M)
224.	Dr. R.K. Poddar	CPI(M)
225.	Ratna Bahadur Rai	CPI (M)
226.	Md. Salim	CPI(M)
227.	Ashis Sen	CPI (M)
228.	Ashoke Kumar Sen	JD(S)
229.	Sukomal Sen	CPI (M)

UNION TERRITORIES

DELHI (3)

230.	Vacant	
231.	Vacant	
232.	Vacant	

PONDICHERRY (1)

233.	Narayanasamy	Cong (I)

NOMINATED BY THE PRESIDENT (12)

234.	Prakash Yashwant Ambedkar
235.	Madan Bhatia[1]
236.	Jagmohan
237.	R.K. Karanjia
238.	Bhupinder Singh Mann
239.	Mohammad Yunus[1]
240.	Bishambhar Nath Pande[1]
241.	Vacant
242.	Vacant
243.	Vacant
244.	Vacant
245.	Vacant

1. Belong to Cong (I).

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LOK SABHA
(As on 1 March 1993)

Speaker: Shivraj V. Patil[1]
Deputy Speaker: S Mallikarjunaiah

	State/Constituency	Name of the Member	Party/Group
ANDHRA PRADESH (42)			
1.	Anakapalli	Ramakrishna Konathala	Cong (I)
2.	Amalapuram (SC)	G.M.C. Bala Yogi	TD
3.	Anantapur	A. Venkata Reddy	Cong (I)
4.	Adilabad	A. Indrakaran Reddy	Cong(I)
5.	Bobbili	Ananda Gajapathi Raju	Cong (I)
6.	Bhadrachalam (ST)	Kum. Kamla Kumari K.	Cong (I)
7.	Bapatla	Venkataswara D. Rao	TD
8.	Chittoor	M.G. Reddy	Cong (I)
9.	Cuddapah	Y.S. Rajasekhar Reddy	Cong (I)
10.	Eluru	Bolla Bulli Ramaiah	TD
11.	Guntur	Lal Jan S.M. Basha	TD
12.	Hindupur	Gangadhara S	Cong (I)
13.	Hyderabad	Sultan Salahuddin Owaisi	AIMIM
14.	Hanamkonda	Kamaluddin Ahmed	Cong (I)
15.	Kakinada	S. Thota Subba Rao	Cong (I)
16.	Kurnool	K. Vijaya Bhaskara Reddy	Cong (I)
17.	Karimnagar	J.Chokka Rao	Cong (I)
18.	Khammam	P.V. Rengayya Naidu	Cong (I)
19.	Machilipatnam	K.P.Reddaiah Yadav	Cong (I)
20.	Mahabubnagar	Mallikarjun	Cong (I)
21.	Medak	M. Baga Reddy	Cong (I)
22.	Miryalguda	B.N. Reddy	CPI (M)
23.	Narsapur	Vijayakumar Raju Bh	Cong (I)
24.	Narasaraopet	Venkata Krishna Reddy Kasu	Cong (I)
25.	Nellore (SC)	Kum. Padamasree Kudumula	Cong (I)
26.	Nandyal	P.V. Narasimha Rao	Cong (I)
27.	Nagarkurnool (SC)	Dr. Ravi Mallu	Cong (I)
28.	Nizamabad	Gaddam Ganga Reddy	Cong (I)
29.	Nalgonda	Dharma Biksham	CPI
30.	Ongole	Magunta Subbarama Reddy	Cong (I)
31.	Parvathipuram (ST)	V. Vijayaramaraju S	Cong (I)
32.	Peddapalli (SC)	G. Venkat Swamy	Cong (I)
33.	Rajahmundry	K.V.R. Chowdary	Cong (I)
34.	Rajampet	Sai Prathap A	Cong (I)
35.	Srikakulam	Dr. Viswanatham Kanithi	Cong (I)
36.	Secunderabad	Dattatraya Bandaru	BJP
37.	Siddipet (SC)	Yellaiah Nandi	Cong (I)
38.	Tenali	Venkateswarlu Ummareddy	TD
39.	Tirupati (SC)	Dr. Chinta Mohan	Cong (I)
40.	Visakhapatnam	M.V.V.S.Murthy	TD
41.	Vijayawada	Sobhanadreeswara Rao Vedde	TD
42.	Warangal	R.Surender Reddy	Cong (I)
ARUNACHAL PRADESH (2)			
43.	Arunachal East	Laeta Umbrey	Cong (I)
44.	Arunachal West	P.K. Thungon	Cong (I)

1. Belong to Cong (I)

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	State/Constituency	Name of the Member	Party/Group
ASSAM (14)			
45.	Autonomious Disttict (ST)	Dr. Jayanta Rongpi	Autonomos State Demand Committee
46.	Barpeta	Uddhab Barman	CPI(M)
47.	Dhubri	Nurul Islam	Cong (I)
48.	Dibrugarh	Paban Singh Ghatowar	Cong (I)
49.	Guwahati	Kirip Chaliha	Cong (I)
50.	Jorhat	Bijoy Krishna Handique	Cong (I)
51.	Kaliabor	Tarun Gogoi	Cong (I)
52.	Karimganj (SC)	Dwaraka Nath Das	BJP
53.	Kokrajhar (ST)	Satyendra Nath Brohmo Choudhury	Ind.
54.	Lakhimpur	Balin Kuli	Cong (I)
55.	Mangaldai	Probin Deka	Cong (I)
56.	Nagaon	Muhi Ram Saikia	AGP
57.	Silchar	Kabindra Purkayastha	BJP
58.	Tejpur	Swarup Upadhyaya	Cong (I)
BIHAR (54)			
59.	Araria (SC)	Sukhdev Paswan	JD
60.	Arrah	Ram Lakhan Singh Yadav	JD[1]
61.	Aurangabad	Ram Naresh Singh	JD
62.	Bagaha (SC)	Mahendra Baitha	JD
63.	Bettiah	Dr. Faiyazul Azam	JD
64.	Barh	Nitish Kumar	JD
65.	Balia	Surya Narayan Singh	CPI
66.	Banka	Pratap Singh	JD
67.	Bhagalpur	Chun Chun Prasad Yadav	JD
68.	Begusarai	Smt Krishna Sahi	Cong (I)
69.	Buxar	Tej Narayan Singh	CPI
70.	Bikramganj	Ram Prasad Singh	JD
71.	Chapra	Lal Baboo Rai	JD
72.	Chatra	Upendra Nath Verma	JD[1]
73.	Darbhanga	Md.Ali Ashraf Fatmi	JD
74.	Dumka (ST)	Shibu Soren	JMM
75.	Dhanbad	Prof.(Smt). Rita Verma	BJP
76.	Gopalganj	Abdul Ghafoor	JD
77.	Godda	Suraj Mandal	JMM
78.	Giridih	Rajkishore Mahta	JMM
79.	Gaya (SC)	Rajesh Kumar	JD
80.	Hajjipur (SC)	Ram Sunder Das	JD[1]
81.	Hazaribag	Bhubaneshwar Prasad Mehta	CPI
82.	Jhanjharpur	Devendra Prasad Yadav	JD
83.	Jehanabad	Ramashray Prasad Singh	CPI
84.	Jamshedpur	Shailendra Mahto	JMM
85.	Kishanganj	Syed Shahabuddin	JD
86.	Katihar	Md Yunus Saleen	JD
87.	Khagaria	Ram Saran Yadav	JD[1]
88.	Kodarma	Mumtaj Ansari	JD
89.	Khunti (ST)	Karia Munda	BJP
90.	Lohardaga (ST)	Lalit Oraon	BJP

1. Sitting separately w.e.f. 13 August 1992 consequent on receipt of intimation from them.

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	State/Constituency	Name of the Member	Party/Group
91.	Motihari	Kamla Mishra Madhukar	CPI
92.	Maharajganj	Smt. Girija Devi	JD
93.	Muzaffarpur	George Fernandes	JD
94.	Maddhubani	Bhogendra Jha	CPI
95.	Madhepura	Sharad Yadav	JD
96.	Monghyr	Brahma Nand Mandal	CPI
97.	Nalanda	Vija Kumar Yadav	CPI
98.	Nawadah (SC)	Premchand Ram	CPI(M)
99.	Purnea	Vacant	
100.	Patna	Vacant	
101.	Palamau(SC)	Ramdew Ram	BJP
102.	Rosera(SC)	Ram Vilas Paswan	JD
103.	Rajmahal(ST)	Simon Marandi	JMM
104.	Ranchi	Ram Tahal Choudhary	BJP
105.	Siwan	Brishin Patel	JD
106.	Sitamarhi	Nawal Kishore Rai	JD
107.	Sheohar	Hari Kishore Singh	JD
108.	Samastipur	Manjay Lal	JD
109.	Saharsa	Surya Narain Yadav	JD[1]
110.	Sasaram (SC)	Chhedi Paswan	JD
111.	Singhbhum	Krishna Marandi	JMM
112.	Vaishali	Shiva Sharan Sinha	JD
GOA(2)			
113.	Mormugao	Eduardo Faleiro	Cong(I)
114.	Panaji	Harish Narayan Prabhu Zantye	Cong(I)
GUJARAT			
115.	Amreli	Dileepbhai Sanghani	BJP
116.	Ahmedabad	Harin Pathak	BJP
117.	Anand	Ishvarbhai Khodabhai Chavda	Cong(I)
118.	Bhavnagar	Dr. Mahavirsinhji Gohil	BJP
119.	Banaskantha	Harisinh Chavada	BJP
120.	Baroda	Smt. Dipika H. Topiwala	BJP
121.	Broach	Chandubbai Deshmukh	BJP
122.	Bulsar(ST)	Uttambhai Harjibhai Patel	Cong(I)
123.	Chhota Udaipur(ST)	Naranbhai Jamlabhai Rathava	Cong(I)
124.	Dhandhuka(SC)	Ratilal Kalidas Varma	BJP
125.	Dohad(ST)	Somjibhai Damor	Cong(I)
126.	Gandhinagar	Lal Krishna Advani	BJP
127.	Godhra	Shankersineh Veghela	BJP
128.	Jamnagar	Chandresh Patel Kordia	BJP
129.	Junagdh	Smt. Bhavna Chikhaliya	BJP
130.	Kapadvanj	Gabhaji Mangaji Thakore	BJP
131.	Kaira	Dr. K.D. Jeswani	BJP
132.	Kutch	Harilal Nanji Patel	Cong(I)
133.	Mehsana	Dr. A.K. Patel	BJP
134.	Mandvi(ST)	Chhitubhai Gamit	Cong(I)
135.	Porbandar	Haribhai M. Patel	BJP
136.	Patan (SC)	Mahesh Kumar Kanodia	BJP
137.	Rajkot	S.N. Vekaria	BJP
138.	Surendranagar	Somabhai Patel	BJP
139.	Sabarkantha	Arvind Trivedi	BJP
140.	Surat	Kashi Ram Rana	BJP

1. Sitting separately w.e.f 13 August 1992 consequent on receipt of information from him.

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	State/Constituency	Name of the Member	Party/Group
HARYANA(10)			
141.	Ambala(SC)	Ram Prakash Chaudhary	Cong(I)
142.	Bhiwani	Jangbir Singh	Haryana Vikas Party
143.	Faridabad	Avtar Singh Bhadana	Cong(I)
144.	Hissar	Narain Singh Chaudhary	Cong(I)
145.	Kurekshetra	Tara Singh	Cong(I)
146.	Karnal	Chiranji Lal Sharma	Cong(I)
147.	Mahendragarh	Col. Rao Ram Singh	Cong(I)
148.	Rohtak	Bhupender Singh Hooda	Cong(I)
149.	Sonipat	Dharampal Singh Malik	Cong(I)
150.	Sirsa(SC)	Km. Selja	Cong(I)
HIMACHAL PRADESH(4)			
151.	Hamirpur	Prof.Prem Dhumal	BJP
152.	Kangara	Maj. D.D. Khanoria	BJP
153.	Mandi	Sukh Ram	Cong(I)
154.	Shimla (SC)	K.D. Sultanpuri	Cong(I)
JAMMU AND KASHMIR (6)			
155.	Vacant		
156.	Vacant		
157.	Vacant		
158.	Vacant		
159.	Vacant		
160.	Vacant		
KARNATAKA(28)			
161.	Bidar(SC)	Ramchandra Veerappa	BJP
162.	Bellary	Smt. Basava Rajeshwari	Cong(I)
163.	Bangalore(North)	C.K. Jaffer Sharief	Cong(I)
164.	Bangalore(South)	K.Venkatagiri Gowda	BJP
165.	Belgaum	S.B. Sidnal	Cong(I)
166.	Bagalkot	Bhimppa Nyamagouda	Cong(I)
167.	Bijapur	B.K. Gudadinni	Cong(I)
168.	Chitradurga	C.P. Mudalagiriyappa	Cong(I)
169.	Chikballapur	V.Krishna Rao	Cong (I)
170.	Chamarajanagara(SC)	V. Sreenivasa Prasad	Cong(I)
171.	Chikmagalur	Smt. D.K. Thara Devi Siddhartha	Cong(I)
172.	Chikkodi(SC)	B.Shankaranand	Cong (I)
173.	Davanagere	Channaiah Odeyar	Cong(I)
174.	Dharwad(South)	B.M. Mujahid	Cong(I)
175.	Dharwad	D.K. Naikar	Cong(I)
176.	Gullbarga	Dr. B.G. Jawali	Cong(I)
177.	Hassan	H.D. Devegowda	JP
178.	Koppal	Anwari Basavaraj Patil	Cong(I)
179.	Kolar(SC)	K.H. Muniyappa	Cong(I)
180.	Kanakapura	M.V Chandrashekhar Murthy	Cong(I)
181.	Kanara	G.Devaraya Naik	Cong(I)
182.	Mandya	G. Madegowda	Cong (I)
183.	Mysore	Smt. Chandra Prabha Urs	Cong (I)
184.	Mangalore	V. Dhananjaya Kumar	BJP
185.	Raichur	A. Venkatesh Naik	Cong (I)

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	State/Constituency	Name of the Member	Party/Group
186.	Shimoga	K.G. Shivappa	Cong (I)
187.	Tumkur	S. Malikarjunaiah	BJP
188.	Udupi	Oscar Fernandes	Cong (I)
KERALA (20)			
189.	Alapuzha	T.J. Anjalose	CPI (M)
190.	Adoor (SC)	Kodikkunnil Suresh	Cong (I)
191.	Badagara	K.P. Unnikrishnan	Cong (S)
192.	Cannanore	Mullappally Ramacandaran	Cong (I)
193.	Calicut	K. Muraleedharan	Cong (I)
194.	Chirayinkil	Smt. Suseela Gopalan	CPI (M)
195.	Ernakulam	Prof. K.V. Thomas	Cong (I)
196.	Idukki	K.M. Mathew	Cong (I)
197.	Kasargod	M. Ramnna Rai	CPI (M)
198.	Kottayam	Ramesh Chennithala	Cong (I)
199.	Manjri H.P.	E. Ahamed	M.L
200.	Mukundapuram	Prof. Smt. Savithri Lakshmanan	Cong (I)
201.	Muvattupuzha	P.C. Thomas	Kerala Cong (M)
202.	Mavelikara	Prof. P.J. Kurian	Cong (I)
203.	Ottappalam (SC)	vacant	
204.	Ponnani H.P.	Ebrahim Sulaiman Sait	ML
205.	Palakkad	V.S. Vijayraghavan	Cong (I)
206.	Quilon	S. Krishna Kumar	Cong (I)
207.	Trichur	P.C. Chacko	Cong (I)
208.	Thiruvananthapuram	A. Charles	Cong (I)
MADHYA PRADESH (40)			
209.	Bhind	Yoganand Saraswati	BJP
210.	Bilaspur	Khelan Ram Jangde	Cong (I)
211.	Bastar (ST)	Manku Ram Sodhi	Cong (I)
212.	Balaghat	Vishveshwar Bhagat	Cong (I)
213.	Betul	Aslam Sher Khan	Cong (I)
214.	Bhopal	Sushil Chandra Varma	BJP
215.	Chhindwara	Kamal Nath	Cong (I)
216.	Damoh	Ramakrishna Kusmaria	BJP
217.	Durg	Chandu Lal Chandrakar	Cong (I)
218.	Dhar (ST)	Surajbhanu Solanki	Cong (I)
219.	Gwalior	Madhavrao Scindia	Cong (I)
220.	Guna	Smt. Vijaya Raje Scindia	BJP
221.	Hoshangabad	Sartaj Singh Chhatwal	BJP
222.	Indore	Smt. Sumitra Mahajan	BJP
223.	Janjgir	Bhawani Lal Verma	Cong (I)
224.	Jabalpur	Shrvan Kumar Patel	Cong (I)
225.	Jhabua (ST)	Dilip Singh Bhuria	Cong (I)
226.	Khajuraho	Kum. Uma Bharati	BJP
227.	Kanker (ST)	Arvind Netam	Cong (I)
228.	Khandwa	Mahendra Kumar Singh Thakur	Cong (I)
229.	Khargone	Rameshwar Patidar	BJP
230.	Morena (SC)	Barelal Jatav	Cong (I)
231.	Mandla (ST)	Mohanlal Jhikram	Cong (I)
232.	Mahasamund	Pawan Diwan	Cong (I)
233.	Mandsaur	Dr. Laxminarain Pandey	BJP
234.	Rewa	Bhim Singh Patel	BSP
235.	Raigarh (ST)	Kum. Pushpa Devi Singh	Cong (I)

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	State/Constituency	Name of the Member	Party/Group
236.	Raipur	Vidyacharan Shukla	Cong (I)
237.	Rajnandgaon	Shivendra Bahadur Singh	Cong (I)
238.	Rajgarh	Digvijaya Singh	Cong (I)
239.	Sagar (SC)	Anand Ahirwar	Cong (I)
240.	Satna	Arjun Singh	Cong (I)
241.	Sidhi (ST)	Motilal Singh	Cong (I)
242.	Shahdol (ST)	Dalbir Singh	Cong (I)
243.	Surguja (ST)	Khelsai Singh	Cong (I)
244.	Sarangarh (SC)	Paras Ram Bhardwaj	Cong (I)
245.	Seoni	Kum. Vimla Verma	Cong (I)
246.	Shajapur (SC)	Phoolchand Verma	BJP
247.	Ujjain (SC)	Satya Narayan Jatiya	BJP
248.	Vidisha	Shiv Raj Singh Chauhan	BJP
MAHARASHTRA (48)			
249.	Akola	Pandurang Pundlik Fundkar	BJP
250.	Amarvati	Smt. Pratibha Devisinh Patil	Cong (I)
251.	Aurangabad	Moreshware Save	Shiv Sena
252.	Ahmednagar	Yaswantrao Patil	Cong (I)
253.	Bombay (South)	Murli Deora	Cong (I)
254.	Bombay South Central	Mohan Rawale	Shiv Sena
255.	Bombay North Central	Sharad Dighe	Cong (I)
256.	Bombay North East	Gurdas Kamat	Cong (I)
257.	Bombay North West	Sunil Dutt	Cong (I)
258.	Bombay North	Ram Naik	BJP
259.	Buldana (SC)	Mukul Wasnik	Cong (I)
260.	Bhandara	Praful Manoharbhai Patel	Cong (I)
261.	Bead	Smt. Kesharbai Kshirsagar	Cong (I)
262.	Baramati	Sharad Pawar	Cong (I)
263.	Chimur	Vilas Muttemwar	Cong (I)
264.	Chandrapur	Shantaram Potdukhe	Cong (I)
265.	Dahanu (ST)	D.B. Shingda	Cong (I)
266.	Dhule (ST)	Bapu Hari Chaure	Cong (I)
267.	Erandol	Vijay Naval Patil	Cong (I)
268.	Hingou	Vilasrao Nagnath Rao Gundewar	Cong (I)
269.	Ichalkaranji	Rajaram Shankarrao Mane	Cong (I)
270.	Jalna	Ankushrao Raosaheb Tope	Cong (I)
271.	Jalgaon	Dr. Gunawant Rambhau Sarode	BJP
272.	Kulaba	A.R. Antulay	Cong (I)
273.	Kopargaon	Shankarrao D. Kale	Cong (I)
274.	Khed	V.V. Nawale	Cong (I)
275.	Karad	Prithviraj D. Chavan	Cong (I)
276.	Kolhapur	Udaysinh Rao Gaikward	Cong (I)
277.	Latur	Shivraj V. Patil	Cong (I)
278.	Malegaon (ST)	Z.M. Kahandole	Cong (I)
279.	Nasik	Dr. Vasant Pawar	Cong (I)
280.	Namdurbar (ST)	Manikrao Hodalya Gavit	Cong (I)
281.	Nagpur	Datta Raghobaji Meghe	Cong (I)
282.	Nanded	Smt. Suryakanta Patil	Cong (I)
283.	Osmanabad (SC)	Arvind Tulshiram Kamble	Cong (I)
284.	Parbhani	Ashokrao Anandrao Deshmukh	Cong (I)
285.	Andharpur (SC)	S. B. Thorat	Cong (I)
286.	Pune	Anna Joshi	BJP
287.	Rajapur	Sudhir Sawant	Cong (I)

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	State/Constituency	Name of the Member	Party/Group
288.	Ratnagiri	Govindrao Nikam	Cong (I)
289.	Ramtek	Tejsingh Rao Bhonsle	Cong (I)
290.	Solapur	Dharmanna Mondayya Sadul	Cong (I)
291.	Satara	Prataprao B Bhonsale	Cong (I)
292.	Sangli	Prakash V. Patil	Cong (I)
293.	Thane	Ram Kapse	BJP
294.	Washim	Anantrao Deshmukh	Cong (I)
295.	Wardha	Ramchandra Marotrao Ghangare	CPI (M)
296.	Yavatmal	Uttamrao Deorao Patil	Cong (I)
MANIPUR (2)			
297.	Inner Manipur	Y. Yaima Singh	Manipur People's Party
298.	Outer Manipur (ST)	Prof. M. Kamson	Cong (I)
MEGHALAYA (2)			
299.	Shillong	Peter G.Marbaniang	Cong (I)
300.	Tura	P.A. Sangma	Cong (I)
MIZORAM (1)			
301.	Mizoram	Dr. C. Silvera	Cong (I)
NAGALAND (1)			
302.	Nagaland	Imchalamba	Cong (I)
ORISSA (21)			
303.	Aska	Rama Chandra Rath	Cong (I)
304.	Balasore	Dr. Kartikeswar Patra	Cong (I)
305.	Bhadrak (SC)	Arjun Charan Sethi	JD
306.	Bhubaneswar	Shivaji Patnaik	CPI (M)
307.	Berhampur	Gopi Nath Gajapathi	Cong (I)
308.	Bolangir	Sarat Chandra Pattanayak	Cong (I)
309.	Cuttack	Srikanta Jena	JD
310.	Deogarh	Sriballav Panigrahi	Cong (I)
311.	Dhenkanal	K.P. Singh Deo	Cong (I)
312.	Jaipur (SC)	Anadi Charan Das	JD[1]
313.	Jagatsinghpur	Lokanath Choudhury	CPI
314.	Kendrapara	Rabi Ray	JD
315.	Koraput (ST)	Giridhar Gomango	Cong (I)
316.	Kalahandi	Subash Chandra Nayak	Cong (I)
317.	Keonjhar (ST)	Dr. Govinda Chandra Munda	JD[1]
318.	Mayurbhanj (ST)	Gobardhan Bhagey	Cong (I)
319.	Nowrangapur	K. Pradhani	Cong (I)
320.	Puri	Braja Kishore Tripathy	JD
321.	Phulbani (SC)	Mrutyunjaya Nayak	Cong (I)
322.	Sambalpur	Krupasindhu Bhoi	Cong (I)
323.	Sundargarh (ST)	Kum. Frida Tapno	Cong (I)
PUNJAB (13)			
324.	Amritsar	Raghunandan Lal Bhatia	Cong (I)
325.	Bhatinda (SC)	Kewal Singh	Cong (I)
326.	Faridkot	Jagmeet Singh Brar	Cong (I)
327.	Ferozepur	Mohan Singh	BSP
328.	Gurdaspur	Smt. Sukhbans Kaur	Cong (I)

1. Sitting separately with effect from 13.8.1992 consequent on receipt of intimation from them.

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	State/Constituency	Name of the Member	Party/Group
329.	Hoshiarpur	Kamal Chaudhry	Cong (I)
330.	Jalandhar	Vacant	
331.	Ludhiana	Gurcharan Singh Galib	Cong (I)
332.	Phillaur (SC)	Smt. Santosh Chowdhary	Cong (I)
333.	Patiala	Sant Ram Singla	Cong (I)
334.	Ropar	Harchand Singh	Cong (I)
335.	Sangrur	Gurcharan Singh Dadhahoor	Cong (I)
336.	Tarn Taran	Surinder Singh Kairon	Cong (I)
RAJASTHAN (25)			
337.	Alwar	Smt. Mahendra Kumari	BJP
338.	Ajmer	Prof. Rasa Singh Rawat	BJP
339.	Bikaner	Manphool Singh	Cong (I)
340.	Bharatpur	Smt. Krisnendra Kaur(Deepa)	BJP
341.	Bayana	Ganga Ram Kohli	BJP
342.	Banswara	Prabhulal Rawat	Cong (I)
343.	Bhilwara	Shiv Charan Mathur	Cong (I)
344.	Barmer	Ram Niwas Mirdha	Cong (I)
345.	Churu	Ram Singh Kashwan	BJP
346.	Chittorgarh	Jaswant Singh	BJP
347.	Dausa	Rajesh Pilot	Cong (I)
348.	Ganganagar (SC)	Birbal	Cong (I)
349.	Jhunjhunu	Ayub Khan	Cong (I)
350.	Jaipur	Giridhari Lal Bhargava	BJP
351.	Jhalawar	Smt. Vasundhara Raje	BJP
352.	Jalore (SC)	Buta Singh	Cong (I)
353.	Jodhpur	Ashok Gehlot	Cong (I)
354.	Kota	Dau Dayal Joshi	BJP
355.	Nagaur	Nathuram Mirdha	Cong (I)
356.	Pali	Justice Guman Mal Lodha	BJP
357.	Salumber (ST)	Bheru Lal Meena	Cong (I)
358.	Sikar	Dr. Balram Jakhar	Cong (I)
359.	Madhopur (ST)	Kunji Lal	BJP
360.	Tonk (SC)	Ram Narain Berwa	BJP
361.	Udaipur	Girija Vyas	Cong (I)
SIKKIM (1)			
362.	Sikkim	Smt. Dil Kumar Bhandari	Sikkim Sangaram Parishad
TAMIL NADU (39)			
363.	Arakkonam	R. Jeevarathinam	Cong (I)
364.	Chengalpattu	S.S.R. Rajendrakumar	AIADMK
365.	Cuddalore	P.P. Kaliaperumal	Cong (I)
366.	Chidambaram (SC)	Dr. P. Vallal Peruman	Cong (I)
367.	Coimbatore	C.K. Kuppuswamy	Cong (I)
368.	Dharmapuri	K.V. Thangka Balu	Cong (I)
369.	Dindigul	C. Srinivasan	AIADMK
370.	Gobichettipalayam	R.G. Narayanan	AIADMK
371.	Karur	N. Murugesan	AIADMK
372.	Krishnagiri	K. Ramamurthy	Cong (I)
373.	Madras North	D. Pandian	Cong (I)
374.	Madras Central	Era Anbarasu	Cong (I)
375.	Madras South	Dr. R. Sridharan	AIADMK
376.	Madurai	A.G.S. Rambabu	Cong (I)

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377.	Mayiladuturai	Mani Shankar Aiyar	Cong (I)
378.	Nagapattinam (SC)	Dr. (Smt.) Padma	Cong (I)
379.	Nagercoil	N. Dennis	Cong (I)
380.	Nilgiris	R. Prabhu	Cong (I)
381.	Pollachi (SC)	B. Raja Ravi Verma	AIADMK
382.	Palani	Vacant	
383.	Periakulam	R. Ramasamy	AIADMK
384.	Perambalur (SC)	A. Asokaraj	AIADMK
385.	Pudukkottai	N. Sundararaj	Cong (I)
386.	Rasipuram (SC)	B. Devarajan	Cong (I)
387.	Ramanathapuram	Dr. V. Rajeshwaran	Cong (I)
388.	Sriperumbudur (SC)	Smt. Margatham Chandrasekhar	Cong (I)
389.	Salem	P.R. Kumaramangalam	Cong (I)
390	Sivaganga	P. Chidambaram	Cong (I)
391.	Sivakasi	Dr. R.K.G. Rajulu	AIADMK
392	Tindivanam	K. Ramamurthee Tindivanam	Cong (I)
393.	Tirupattur	A. Jayamohan	Cong (I)
394.	Tiruchengode	Dr. (Smt.) K.S. Soundaram	AIADMK
395.	Tiruchirappali	L. Adaikalaraj	Cong (I)
396.	Thanjavur	K. Thulasiah Vandayar	Cong (I)
397.	Tirunelveli	Kundambur M.R. Janardhanan	AIADMK
398.	Tenkasi (SC)	M. Arunachalam	Cong (I)
399.	Tiruchendur	R. Dhanushkodi Athithan	Cong (I)
400.	Vellore	B. Akbar Pasha	Cong (I)
401.	Vandavasi	M. Krishnaswamy	Cong (I)
TRIPURA (2)			
402.	Tripura East (ST)	Smt. Bibhu Kumari Devi	Cong (I)
403.	Tripura West	Sontosh Mohan Dev	Cong (I)
UTTAR PRADESH (85)			
404.	Almora	Jeewan Sharma	BJP
405.	Amroha	Chetan P.S. Chauhan	BJP
406.	Aonla	Rajvir Singh	BJP
407.	Amethi	Cap. Satish Kumar Sharma	Cong (I)
408.	Akbarpur (SC)	Ram Awadh	JD[1]
409.	Azamgarh	Chandrajeet Yadav	JD
410.	Allahabad	Smt. Saroj Dubey	JD
411.	Agra	Bhagwan Shankar Rawat	BJP
412.	Aligarh	Smt. Sheela Gautam	BJP
413	Bijnor (SC)	Mangal Ram Premi	BJP
414.	Baudauh	Chinmaya Nand Swami	BJP
415.	Bareilly	Santosh Kumar Gangwar	BJP
416.	Barabanki (SC)	Ram Sagar	SP
417.	Bahraich	Rudra Sen Choudhari	BJP
418.	Balrampur	Satya Deo Singh	BJP
419.	Basti (SC)	Shyam Lal Kamal	BJP
420.	Bansgaon (SC)	Raj Narain	BJP
421.	Ballia	Chandra Shekhar	JP
422.	Banda	Prakash Narain Tripathi	BJP
423.	Bilhaur	Shyam Bihari Misra	BJP
424.	Bulandshahr	Chhattrapal Singh	BJP
425.	Baghpat	Ajit Singh	JD[1]
426.	Chandauli	Anand Ratna Maurya	BJP
427.	Chail (SC)	Shashi Prakash	JD

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	State/Constituency	Name of the Member	Party/Group
428.	Dumaryaganj	Rampal Singh	BJP
429.	Deoria	Mohan Singh	JD
430.	Etawah	Kanshi Ram	BSP
431.	Etah	Mahadeepak Singh Shakya	BJP
432.	Fiazabad	Vinaya Katiyar	BJP
433.	Fatehpur	Vishwanath Pratap Singh	JD
434.	Farrukhabad	Salman Khursheed	Cong (I)
435.	Firozabad (SC)	Prabhu Dayal Katharia	BJP
436.	Garhwal	Maj. Gen. (Retd.) Bhuwan Chand Khanduri	BJP
437.	Gonda	Brij Bhushan Sharan Singh	BJP
438.	Gorakhpur	Mahant Avedya Nath	BJP
439.	Ghosi	Kalp Nath Rai	Cong (I)
440.	Ghazipur	Vishwanath Shastri	CPI
441.	Ghatampur (SC)	Keshari Lal	JD
442.	Hamirpur	Pt. Vishwanath Sharma	BJP
443.	Hathras (SC)	Dr. Lal Bahadur Rawal	BJP
444.	Hapur	Dr. Ramesh Chand Tomar	BJP
445.	Hardwar (SC)	Ram Singh	BJP
446.	Hardoi (SC)	Jai Prakash	BJP
447.	Jaunpur	Arjun Singh Yadav	JD[1]
448.	Jhansi	Rajendra Agnihotri	BJP
449.	Jalaun (SC)	Gaya Prasad Kori	BJP
450.	Jalesar	Swami Sureshanand	BJP
451.	Kaiserganj	Laxminarain Tripathi	BJP
452.	Khalilabad	Ashtbhuja Prasad Shukla	BJP
453.	Kanpur	Jagat Vir Singh Drona	BJP
454.	Kannauj	Chhotey Singh Yadav	SP
455.	Kheri	Dr. G.L. Kanaujia	BJP
456.	Khurja	Roshan Lal	JD[1]
457.	Kairana	Harpal Panwar	JD[1]
458.	Lalganj (SC)	Rambadan	JD[1]
459.	Lucknow	Atal Bihari Vajpayee	BJP
460.	Moradabad	Ghulam Mohammad Khan	JD[1]
461.	Misrikh (SC)	Ramlal Rahi	Cong (I)
462.	Mohanlalganj (SC)	Chhotey LAl	BJP
463.	Maharajganj	Pankaj Chaudhari	BJP
464.	Machholi Shahr	Shivsharan Verma	JD[1]
465.	Mirzapur	Virender Singh	BJP
466.	Mainpuri	Uday Pratap Singh	SP
467.	Mathura	Dr. Sakshiji Maharaj Swami	BJP
468.	Meerut	Vacant	-
469.	Muzaffarnagar	Naresh Kumar Baliyan	BJP
470.	Nainital	Balraj Pasi	BJP
471.	Pilibhit	Dr. Parshuram Gangwar	BJP
472.	Pratapgarh	Abhay Pratap Singh	JD[1]
473.	Padrauna	Ram Nagina Mishra	BJP
474.	Phulpur	Ram Pujan Patel	JD
475.	Rampur	Rajendra Kumar Sharma	BJP
476.	Rae Bareli	Smt. Sheila Kaul	Cong(I)
477.	Robertsgang (SC)	Ramnihore Rai	JD[1]
478.	Sambhal	Prof. (Dr.) Sripal Singh Yadav	JD
479.	Shahjahanpur	Stayapal Singh Yadav	JD[1]
480.	Shahabad	Surendra Pal Pathak	BJP

1. Sitting separately with effect from 13 August 1992 consequent on receipt of intimation from them.

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	State/Constituency	Name of the Member	Party/Group
481.	Sitapur	Janardan Prasad Mishra	BJP
482.	Sultanpur	Vishwanath Das Shastri	BJP
483.	Salempur	Hari Kewal Prasad	JD
484.	Saidpur (SC)	Rajnath Sonkar Shastri	JD[1]
485.	Saharanpur	Rasheed Masood	JD[1]
486.	Tehri Garhwal	Manabendra Shah	BJP
487.	Unnao	Devi Bux Singh	BJP
488.	Varanasi	Shrish Chandra Dikshit	BJP
WEST BENGAL (42)			
489.	Alipurduars (ST)	Pius Tirkey	RSP
490.	Arambagh	Anil Basu	CPI(M)
491.	Asansol	Haradhan Roy	CPI(M)
492.	Balurghat (SC)	Palas Barman	RSP
493.	Barasat	Chitta Basu	AIFB
494.	Basirhat	Monoranjan Sur	CPI
495.	Barrackpore	Tarit Baran Topdar	CPI(M)
496.	Bankura	Basudeb Acharia	CPI(M)
497.	Burdwan	Dr. Sudhir Ray	CPI(M)
498.	Bolpur	Somnath Chatterjee	CPI(M)
499.	Birbhum(SC)	Ramchandra Dome	CPI(M)
500.	Behrampore	Nani Bhattacharya	RSP
501.	Cooch Behar(SC)	Amar Roy Pradhan	AIFB
502.	Calcutta North West	Dr. Debi Prasad Pal	Cong(I)
503.	Calcutta North East	A.K. Panja	Cong(I)
504.	Calcutta South	Kum. Mamta Banerjee	Cong(I)
505.	Contai	Sudhir Giri	CPI(M
506.	Darjeeling	Inder Jit	Cong(I)
507.	Diamond Harbour	Amal Datta	CPI(M)
508.	Dum Dum	Nirmal Kanti Chatterjee	CPI(M)
509.	Durgapur(SC)	Purna Chandra Malik	CPI(M)
510.	Howrah	Prof. Susanta Chakraborty	CPI(M)
511.	Hooghly	Rupchand Pal	CPI(M)
512.	Jalpaiguri	Jitendra Nath Das	CPI(M)
513.	Jangipore	Zainal Abedin	CPI(M)
514.	Jovnagar(SC)	Sanat Kumar Mandal	RSP
515.	Jadavpur	Prof. Malini Bhattacharya	CPI(M)
516.	Jhargram(ST)	Rup Chand Murmu	CPI(M)
517.	Krishnagar	Ajoy Mukhopandhyay	CPI(M)
518.	Katwa	Saifuddin Choudhury	CPI(M)
519.	Malda	A.B.A. Ghani Khan Chowdhary	Cong(I)
520.	Murshidabad	Syed Masudal Hossain	CPI(M)
521.	Mathurapur(SC)	Radhika Ranjan Pramanik	CPI(M)
522.	Midnapore	Indrajit Gupta	CPI
523.	Nabadwip(SC)	Dr. Asim Bala	CPI(M)
524.	Panskura	Smt. Geeta Mukherjee	CPI
525.	Purulia	Birsingh Mahato	AIFB
526.	Raiganj	Subrata Mukherjee	CPI(M)
527.	Serampore	Sudarsan Ray Choudhuri	CPI(M)
528.	Tamluk	Satyagopal Misra	CPI(M)
529.	Uluberia	Hannan Mollah	CPI(M)
530.	Vishnupur(SC)	Sukhendu Khan	CPI(M)

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	State/Constituency	Name of the Member	Party/Group
UNION TERRITORIES			
ANDAMAN AND NICOBAR ISLANDS(1)			
531.	Andaman and Nicobar Island	Manoranjan Bhakta	Cong(I)
CHANDIGARH(1)			
532.	Chandigarh	Pawan Kumar Bansal	Cong(I)
DADRA AND NAGAR HAVELI(I)			
533.	Dadra and Nagar Haveli	Mohanbhai Delkar	Cong(I)
DAMAN AND DIU(1)			
534.	Daman and Diu	D.J. Tandel	BJP
DELHI(7)			
535.	Chandni Chowk	Tara Chand Khandelwal	BJP
536.	Delhi Sadar	Jagdish Tytler	Cong(I)
537.	East Delhi	B.L.Sharma Prem	BJP
538.	Karol Bagh(SC)	Kalka Das	BJP
539.	New Delhi	Rajesh Khanna	Cong(I)
540.	Outer Delhi	Sajjan Kumar	Cong(I)
541.	South Delhi	Madan Lal Khurana	BJP
LAKSHADWEEP(1)			
542.	Lakshadweep	P.M. Sayeed	Cong(I)
PONDICHERRY(1)			
543.	Pondicherry	M.O.H. Farook	Cong(I)
ANGLO-INDIANS(2)			
544.	Frank Anthony	Nominated	
545.	Maj. Gen. R.G. Williams	Nominated	

Abbreviations used for parties/Groups are: All India Anna Dravida Munetra Kazhagam(AIADMK); Asom Gana Parishad(AGP); Bharatiya Janata Party(BJP); Communist Party of India (CPI); Communist Party of India (Marxist) CPI(M); Congress(I) (Cong I); Dravida Munetra Kazhagam (DMK); Janata Dal(JD); Janta Dal(Samajwadi) (JDS); Janta Party(JP); Muslim League(ML); Nagaland People's Council (NPC); National Conference (NC); Revolutionary Socialist Party(RSP); Sikkim Sangram Parishad(SSP); Telugu Desam, (TD); Hill State People's Democratic Party (HSPDP); All India Forward Bloc(AIFB); Bahujan Samaj Party(BSP); All India Majlis-e-Ittehadul Muslimeen(AIMIM); and Jharkhand Mukti Morcha(JMM).

CIVILIAN AWARDS ANNOUNCED ON 26 JANUARY 1992

Padma Vibhushan : The award is given for exceptional and distinguished service in any field including service rendered by Government servants.

Recipients : Smt. Aruna Asaf Ali
Atal Bihari Vajpayee
Govinddas Mannulal Shroff
Kaloji Narayana Rao

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Laxmanshastri Balaji Joshi
Dr. Mallikarjun Bheemaryappa Mansoor
Ravi Narayan Reddy
Dr. Shantaram Rajaram Vankudre alias
Dr. V. Shantaram
Sardar Swaran Singh
Dr. (Km.) Sivaramakrishna Iyer Padmavati

Padma Bhushan : The award is given for distinguished service of high order in any field including service rendered by Government servants.

Recipients : Hakim Abdul Hameed
Adusumalli Radha Krishna
Bijoy Chandra Bhagavati
Vaid Brihaspati Dev Triguna
Smt. Byrappa Saroja Devi Sri Harsha
Pandit Chintaman Raghunath Vyas
Prof. Cingireddy Narayana Reddy
Dalsukh Dahyabhai Malvania
Pandit Devabrata Chaudhuri
Girish Karnad
Goro Koyama
Prof. Gursaran Prashad Talwar
Pandit Hariprasad Chaurasia
Hasmukh Thakordas Parekh
Dr. (Smt.) Kadur Venkatalakshamma
Dr. Khem Singh Gill
Kisan Baburao Hajare alias Hajare Anna
Kongara Jaggaiah
Dr. Krishnaswamy Kasturirangan
Dr. (Smt.) Mamballaikalathil Sarada Menon
Smt. Mrinalini Sarabhai
Naushad Ali Wahid Ali
Dr. Ramachandra Dattatraya Lele
Prof. Ranjan Roy Daniel
Setu Madhava Rao Pagadi
Smt. Sonal Mansingh
Syed Abdul Malik
Dr. Thayil John Cherian
Dr. Triloki Nath Khoshoo
Prof. Trippunithura Narayan Krishnan
Vavilala Gopalakrishnayya
Virendra Dayal

Padma Shri : The award is given for distinguished service in any field including service rendered by Government servants.

Recipients : 87

GALLANTRY AWARDS

The following gallantry and defence distinguished service awards were announced during the period 27 January 1992 to 26 January 1993:

GALLANTRY AWARDS

Ashoka Chakra	1 (posthumous)
Kirti Chakr	3 (2 posthumous)
Vir Chakra	1 (posthumous)
Shaurya Chakra	48 (14 posthumous)
Bar to Shaurya Chakra	1

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DEFENCE DISTINGUISHED SERVICE AWARDS

Param Vishisht Seva Medal	21
Uttam Yuddh Seva Medal	1
Ati Vishist Seva Medal	36
Yuddh Seva Medal	1
Vishist Seva Medal	101
Sena Medal	155 (18 posthumous)
Nao Sena Medal	15 (1 posthumous)
Vayu Sena Medal	12 (1 posthumous)

LALIT KALA AKADEMI AWARDS 1992

Jai Zharotia (Delhi)	Extension of Desire	Acrylic
Rajesh Sharma (Delhi)	Inspiration-1	Oil
Rajender Kumar Tiku (Jammu)	Evolution of Rectangular Shrine-III	Wood
Ramendu Sonawane (Bombay)	Under the Earth-1	Oil
Jagdeep Garcha (Chandigarh)	Cold War	Oil
Murli Lahoti (Pune)	Cosmic	Oil
S.G. Vidyashankar Sthapathy (Tamil Nadu)	Mangai	Bronze
P. Srinivasan (Madras)	Squares N-9	Oil
Adwaita Gadanayak (Orissa)	My Temples	Stone
T. Vaikuntam (Hyderabad)	Panel	Acrylic

SANGEET NATAK AKADEMI AWARDS 1992

MUSIC

Ramarao V. Naik	*Hindustani Vocal*
Shivkumar Shuklā	*Hindustani Vocal*
Uma Shankar Mishra	*Hindustani Instrumental: Sitar*
Sultan Khan	*Hindustani Instrumental: Sarangi*
K.R. Kumaraswamy Iyer	*Carnatic Instrumental: Veena*
M.K. Kalyanakrishna Bhagavathar	*Carnatic Instrumental: Veena*
Umayalpuram K. Sivaraman	*Carnatic Instrumental: Mridangam*

DANCE

K.J. Sarasa	*Bharatanatyam*
Dhirendra Nath Pattnaik	*Odissi*
Sachin Shankar	*Creative*

THEATRE

R. Nagarathnamma	*Acting: Kannada*
Poornam Viswanathan	*Acting: Tamil*
Mohan Maharishi	*Direction*
Surendra Verma	*Playwriting: Hindi*

TRADITIONAL/FOLK/TRIBAL MUSIC/DANCE/THEATRE AND PUPPETRY

Khagen Mahanta	*Folk Music: Assam*
Ramakishan Solanki	*Nagara: Rajasthan*
Lalgudim Swaminathan	*Tevaram: Tamil Nadu*
T.S. Balakrishna Sastrigai	*Harikatha: Tamil Nadu*
S. Devabarata Singh	*Thang-ta: Manipur*
Moozhikulam Kochukuttan Chakyar	*Koodiyattam: Kerala*
Babi Nalang	*Dashavatar: Maharashtra*
Dadi Doram Pudumjee	*Puppetry*

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PERFORMING ARTS IN THE MEDIA

Naushad Ali	*Music*
K.J. Yesudas	*Music*

FELLOWSHIPS

D.K. Pattammal
Ali Akbar Khan
Prem Lata Sharma

SAHITYA AKADEMI AWARDS 1992

Author	Work	Language
Hiren Bhattacharya	*Saichar Pathar Manuh*	Assamese
Alokeranjan Dasgupta	*Marami Karat*	Bengali
Yash Sharma	*Jo Tere Man Chitt Laggi Ja*	Dogri
Ruskin Bond	*Our Trees Still Grow in Dehra*	English
Bholabhai Patel	*Devoni Ghati (Travelogue)*	Gujarati
Giriraj Kishore	*Dhhai Ghar*	Hindi
S.R. Ekkundi	*Bakulada Hoovugalu*	Kannada
Shafi Shaida	*Amaar*	Kashmiri
Nagesh Karmali	*Vonshakullachen Dennen*	Konkani
Bhimaa Nath Jha	*Vividha*	Maithili
M. Mukundan	*Daivathinte Vikrithikal*	Malayalam
A. Chitreshor Sharma	*Tharosangbi*	Manipuri
Vishwas Patil	*Zadazadati*	Marathi
R.P. Lama	*Indra Dhanush*	Nepali
Late Rabi Patnaik	*Bichitra Barna*	Oriya
Prem Prakash	*Kujh Ankiha Vi*	Punjabi
Arjun Dev Charan	*Dharah Judh*	Rajasthani
Hari Narayana Dikshit	*Bhismacharitam*	Sanskrit
Kovi Manisekaran	*Kutralak Kurinji*	Tamil
Malathi Chandur	*Hridaya Netri*	Telugu
Mohammad Alvi	*Chautha Aasman*	Urdu

LAWS ENACTED BY PARLIAMENT IN 1992

1. The Government of National Capital Territory of Delhi Act, 1991.
2. The Representation of the People (Amendment) Act, 1992.
3. The Appropriation (Railways) Act, 1992.
4. The Appropriation (Railways) No.2 Act,1992.
5. The Appropriation Act,1992
6. The Appropriation (Vote on Account) Act,1992.
7. The Manipur Appropriation Act,1992.
8. The Manipur Appropriation (Vote on Account) Act,1992.
9. The Jammu and Kashmir Appropriation Act,1992.
10. The Jammu and Kashmir Appropriation (Vote on Account) Act,1992.
11. The Public Liability Insurance (Amendment) Act,1992.
12. The Destructive Insects and Pests (Amendment and Validation) Act,1992.
13. The Copyright (Amendment) Act, 1992.
14. The Indian Red Cross Society (Amendment) Act,1992.
15. The Securities and Exchange Board of India Act,1992.
16. The Cess and other Taxes on Minerals (Validation) Act, 1992.
17. The Appropriation No.2 Act,1992.
18. The Finance Act,1992.

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19. The National Commission for Minorities Act,1992.
20. The Parliament (Prevention of Disqualification) Amendment Act,1992.
21. The Jammu and Kashmir State Legislature (Delegation of Powers) Act,1992.
22. The Foreign Trade (Development and Regulation) Act,1992.
23. The Indian Ports (Amendment) Act,1992.
24. The Bhopal Gas Leak Disaster (Processing of Claims) Amendment Act,1992.
25. The Constitution (Seventieth Amendment) Act,1992.
26. The National Waterway (Kottam Kottapuram Stretch of West Coast Canal and Champakara and Udyogmandal Canals) Act,1992.
27. The Capital Issues (Control) Repeal Act,1992.
28. The Special Court (Trial of Offences Relating to Transactions in Securities) Act,1992.
29. The Foreign Exchange Conservation (Travel) Tax Abolition Act,1992.
30. The Appropriation (Railways) No.3 Act,1992.
31. The Appropriation (Railways) No.4 Act,1992.
32. The Jammu and Kashmir Appropriation (No.2) Act,1992.
33. The Appropriation No.3 Act,1992.
34. The Appropriation No.4 Act,1992.
35. The Constitution (Seventy-first Amendment) Act,1992.
36. The Rehabilitation Council of India Act,1992.
37. The Indo-Tibetan Border Police Force Act,1992.
38. The Banking Companies (Acquisition and Transfer of Undertaking) Amendment Act,1992.
39. The Army (Amendment) Act,1992.
40. The Constitution (Seventy-second Amendment) Act,1992.
41. The Representation of the People (Amendment) Act,1992.
42. The Citizenship (Amendment) Act,1992.
43. The Central Agricultural University Act,1992.
44. The Infant Milk Substitutes Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act, 1992.

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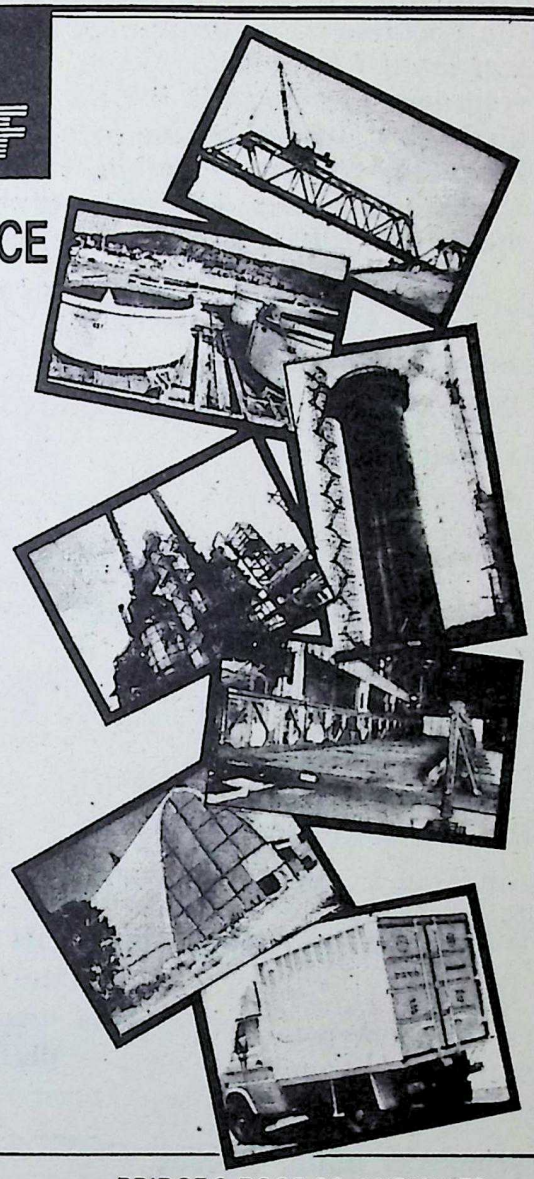

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On 17th December, 1779, Dadra and Nagar Haveli, became a Portuguese colony as a result of a treaty between the Marathas and the Portuguese for an annual revenue of rupees twelve thousand and mutual friendship. It was liberated on August 2, 1954 by local volunteers. During the period 1954 to 1961, for about 7 years the territory was ruled by the people themselves, called Free Dadra & Nagar Haveli Administration. The territory merged with the Indian Union in 1961 after arbitration at the International Court of Justice, the Hague. It has since been a seperate Union Territory.

DADRA AND NAGAR HAVELI-PROGRESS AT A GLANCE

Administrator	:	Shri K.S. Baidwan, I.A.S.
Development Commissioner	:	Smt. Sindhushree Khullar, I.A.S.
Finance Secretary	:	Shri Narayan Diwakar, I.A.S.
Acting Collector	:	Shri V.K. Gupta
Geographical Area	:	491 Sq. Kms.
Land Under Agri-Culture Cultivation	:	24415 Hectares
Forest	:	20311 Hectares
Population	:	1,38,477 (As per 1991 Census)
Tribals	:	78.99%
Scheduled Caste	:	01.97%
Liberrated from the Portuguese	:	2nd August, 1954
Integrated in the Indian Union	:	11th August, 1961

PROGRESS AFTER LIBERATION

	At the time of liberation i.e. 02/08/1954	As on 31.3.92	As on 31.3.93
	1	2	3
Primary & Middle Schools	05	163	163
High Schools	NIL	08	08
Higher Secondary Schools	NIL	04	04
Literacy rate	9.5%	40.7%	40.7%
		(As per 1991 Census)	
Industrial Training Institute	NIL	01	01
School Hostels (including Ashramshala)	01	14	14
Veternary Hospital	NIL	01	01
Veternary Dispensaries (FAVC)	NIL	09	09

Contd...

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Hospitals, Primary Health Centres, Dispensaries, Sub -Centres	04	45	45
Scheduled Bank	NIL	02	02
Branch Units (Dena Bank)	NIL	06	06
Cooperative Banks	NIL	02	02
Total Bank Offices	NIL	11	11
Families benefitted under IRDP	-	5319	5619
Jawahar Rojgar Yojna (Lakh Mandays) (Cum)	-	9.82	-
Jawahar Rojgar Yojana (Lakh Rupees Expenditure) (Cum)	-	255.25	255.25
Plantation (Lakh Trees)	-	287.33	-
No. of Industries working	-	476	498
No. of Industrial Estates	-	04	04
Area under Food Grains (Hectares)	4000	20293	21100
Foodgrains production (MT)	-	30977	35960
Land allotted to landless (Hectares)	-	2380	2757
No. of persons benefitted	-	2775	3320
Allotement of House-sites/Plots	-	1212	1227
Houses constructed & allotted to SC/ST	-	751	803
Road length (Kms)	-	342	342
Villages connected with all weather roads	-	68	68
No. of villages electrified	-	67	67
No. of Industrial Workers	-	9510	10470

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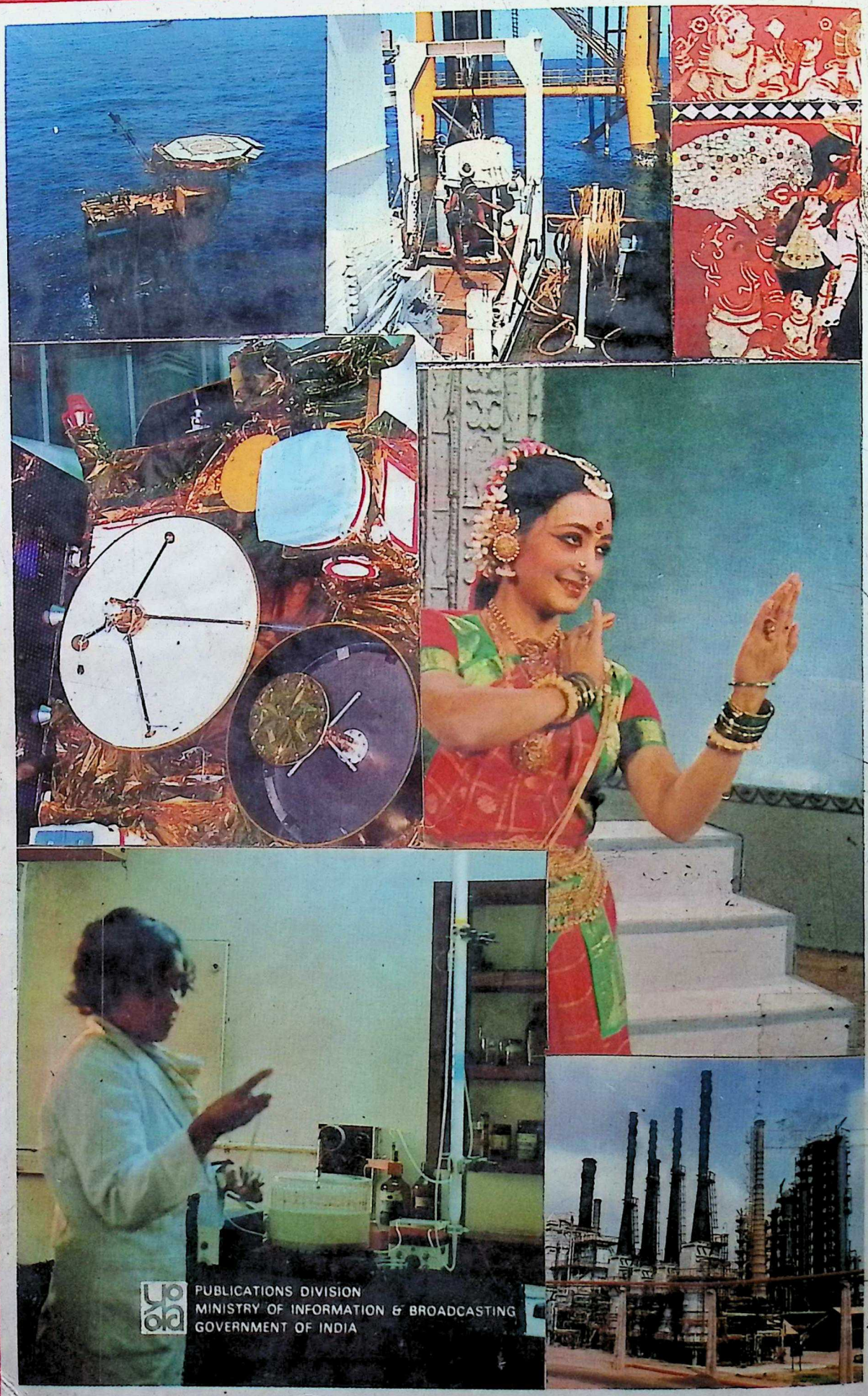

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